

# EXHIBIT 91

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UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
ALEXANDRIA DIVISION

United States of America, )  
et al., )  
Case No.  
Plaintiffs, ) 1:23-cv-00108-LMB-JFA  
v. )  
HON. LEONIE H.M. BRINKEMA  
Google, LLC, )  
Defendant. )  
\_\_\_\_\_)

\* \* \* \* \*

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\* \* \* \* \*

VIDEOTAPED DEPOSITION OF TIMOTHY S. SIMCOE, PH.D.  
Friday, February 23, 2024; 9:34 a.m. EST

Reported by: Cindy L. Sebo, RMR, CRR, CLR, RPR, CCR,  
CSR, RSA, CA CSR 14409, NJ Certified CR 30XI0024460,  
NJ Certified RT 30XR00019500, NM CSR 589, NY Realtime  
Court Reporter, NY Association Certified Reporter, OR  
CSR 230105, TN CSR 998, TX CSR 12778, WA CSR  
23005926, Notary Public  
Job No. CS 6456894

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<p>1 Highly Confidential Videotaped Deposition</p> <p>2 of TIMOTHY S. SIMCOE, PH.D., held at the United</p> <p>3 States Department of Justice, Antitrust Division,</p> <p>4 450 Fifth Street, Northwest, Washington, D.C. 20530</p> <p>5 before Cindy L. Sebo, Registered Merit Court</p> <p>6 Reporter, Certified Real-Time Reporter, Certified</p> <p>7 LiveNote Reporter, Registered Professional Reporter,</p> <p>8 Certified Shorthand Reporter, Certified Court</p> <p>9 Reporter, Real-Time Systems Administrator, California</p> <p>10 Shorthand Reporter 14409, New Jersey Certified Court</p> <p>11 Reporter 30XI00244600, New Jersey Certified Realtime</p> <p>12 Reporter 30XR00019500, New Mexico CSR 589, New York</p> <p>13 Realtime Certified Reporter, New York Association</p> <p>14 Certified Reporter, Oregon CSR 230105, Tennessee CSR</p> <p>15 998, Texas CSR 12778, Washington State CSR 23005926,</p> <p>16 Remote Counsel Reporter, LiveLitigation Authorized</p> <p>17 Reporter and Notary Public, beginning at</p> <p>18 approximately 9:34 a.m. EST, when were present on</p> <p>19 behalf of the respective parties:</p> <p>20</p> <p>21</p> <p>22</p>	<p>1 A P P E A R A N C E S (Continued):</p> <p>2 Attorneys for the Defendant:</p> <p>3 PAUL WEISS RIFKIND WHARTON &amp; GARRISON, LLP</p> <p>4 MARTHA L. GOODMAN, ESQUIRE</p> <p>5 HEATHER C. MILLIGAN, ESQUIRE</p> <p>6 2001 K Street, Northwest</p> <p>7 Washington, D.C. 20006-1047</p> <p>8 202.223.7341</p> <p>9 mgoodman@paulweiss.com</p> <p>10 hmilligan@paulweiss.com</p> <p>11 ALSO PRESENT:</p> <p>12 WARREN BREY, Videographer</p> <p>13 EVELYN DUROSS, Paralegal Specialist, DOJ</p> <p>14 LINNAEA PETTERSON, Paralegal Specialist, DOJ</p> <p>15 ANN ASHLEY DANIEL, Paralegal Specialist, DOJ</p> <p>16 *PATRICK HOLDER, ESQUIRE, The Brattle Group</p> <p>17 *MINJAE SONG, The Brattle Group</p> <p>18 *CHARLIE NUSBAUM, The Brattle Group</p> <p>19 *BRADLEY JUSTUS, ESQUIRE, Axinn, Veltrop &amp;</p> <p>20 Harkrider LLP</p> <p>21 T. CHRISTOPHER BOREK, Analysis Group, Inc.</p> <p>22 RICCARDO MARCHINGIGLIO, Analysis Group, Inc.</p> <p>*(Via Zoom Communication)</p>
Page 3	Page 5
<p>1 A P P E A R A N C E S:</p> <p>2 Attorneys for the Plaintiffs:</p> <p>3 UNITED STATES DEPARTMENT OF JUSTICE</p> <p>4 ANTITRUST DIVISION</p> <p>5 AMANDA M. STRICK, ESQUIRE</p> <p>6 KATHERINE CLEMONS, ESQUIRE</p> <p>7 YIN JIA QIU, ESQUIRE</p> <p>8 MICHAEL WOLIN, ESQUIRE</p> <p>9 450 Fifth Street, Northwest, Suite 4000</p> <p>10 Washington, D.C. 20530</p> <p>11 202.725.0165</p> <p>12 amanda.strick@usdoj.gov</p> <p>13 katherine.clemons@usdoj.gov</p> <p>14 yin.jia.qiu@usdoj.gov</p> <p>15 michaelwol@usdoj.gov</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>	<p>1 --oOo--</p> <p>2 INDEX OF EXAMINATION</p> <p>3 TIMOTHY S. SIMCOE, PH.D.</p> <p>4 United States, et al. vs. Google, LLC</p> <p>5 Friday, February 23, 2024</p> <p>6 --oOo--</p> <p>7 EXAMINATION BY PAGE</p> <p>8 Ms. Goodman 10, 171</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16 CERTIFICATE OF REPORTER 388</p> <p>17 INSTRUCTIONS TO WITNESS 389</p> <p>18 ERRATA 390</p> <p>19 ACKNOWLEDGMENT OF WITNESS 392</p> <p>20</p> <p>21</p> <p>22</p>

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<p style="text-align: right;">Page 18</p> <p>1 THE WITNESS: Approximately, yes.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. Can you approximate how many</p> <p>4 hours you have worked on this matter at \$835 an</p> <p>5 hour?</p> <p>6 A. I haven't done a review to know, so</p> <p>7 this will be a rough approximation. Several</p> <p>8 hundred hours.</p> <p>9 Q. When you say "several hundred," is</p> <p>10 that more than 500 or less than 500, if we're</p> <p>11 going in the middle of the hundreds?</p> <p>12 A. I think it would be less than 500.</p> <p>13 Q. Would it be more than 300?</p> <p>14 A. I think it's likely less than 300,</p> <p>15 but it could be 300.</p> <p>16 Q. And you mentioned that</p> <p>17 The Brattle Group is supporting you; is that</p> <p>18 correct?</p> <p>19 A. Yes.</p> <p>20 Q. How many individuals at</p> <p>21 The Brattle Group have supported you in your work</p> <p>22 on this matter?</p>	<p style="text-align: right;">Page 20</p> <p>1 many hours individuals collectively at</p> <p>2 The Brattle Group have worked on this matter in</p> <p>3 supporting you in your work here on this case?</p> <p>4 MS. STRICK: Under the expert</p> <p>5 stipulation, answer yes or no.</p> <p>6 And, again, I'll just say</p> <p>7 objection to form.</p> <p>8 THE WITNESS: I do not know.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Do you know whether individuals at</p> <p>11 The Brattle Group worked more hours than you did</p> <p>12 on this matter?</p> <p>13 MS. STRICK: Again, under the</p> <p>14 expert stipulation, you can answer yes or</p> <p>15 no.</p> <p>16 THE WITNESS: I don't know for a</p> <p>17 fact. I haven't reviewed the number of</p> <p>18 hours worked by members of The</p> <p>19 Brattle Group.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Okay. Do you have any idea how</p> <p>22 The Brattle Group is compensated for their work</p>
<p style="text-align: right;">Page 19</p> <p>1 MS. STRICK: Again, you can --</p> <p>2 under the expert stipulation, I can</p> <p>3 instruct you to answer just as to the</p> <p>4 number or the names.</p> <p>5 THE WITNESS: I think -- I can</p> <p>6 think of four people with whom I've worked</p> <p>7 directly. My understanding is that there</p> <p>8 are others who have worked with them</p> <p>9 supporting aspects of the work I did on</p> <p>10 this matter under my direction.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Do you have a -- do you know how</p> <p>13 many individuals at Brattle Group work on the</p> <p>14 matter under your direction but that you haven't</p> <p>15 worked with directly?</p> <p>16 MS. STRICK: So objection: form.</p> <p>17 And, again, under the expert</p> <p>18 stipulation, I'll instruct you to answer</p> <p>19 yes or no.</p> <p>20 THE WITNESS: No.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Okay. Do you have a sense of how</p>	<p style="text-align: right;">Page 21</p> <p>1 on this case?</p> <p>2 MS. STRICK: Under the expert</p> <p>3 stipulation, you can answer yes or no.</p> <p>4 THE WITNESS: No.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. Do you share in any of the</p> <p>7 compensation paid to The Brattle Group for its</p> <p>8 work on this case?</p> <p>9 A. No.</p> <p>10 Q. Who are the individuals at</p> <p>11 The Brattle Group with whom you've worked</p> <p>12 directly on your report in this case?</p> <p>13 MS. STRICK: Again, under the</p> <p>14 expert stipulation, just answer as to the</p> <p>15 names.</p> <p>16 THE WITNESS: Patrick Holder,</p> <p>17 H-O- -- you have his name --</p> <p>18 Charlie Nusbaum, N-U-S-B-A-U-M;</p> <p>19 Minjae Song, M-I-N-J-A-E Song; and</p> <p>20 Angela Gunn, G-U-N-N.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Do you know whether any of the four</p>

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<p>1 individuals you named support any other expert 2 for the Plaintiffs in this matter? 3 MS. STRICK: Objection. 4 Again, under the expert 5 stipulation, you can answer yes or no. 6 THE WITNESS: Yes. 7 BY MS. GOODMAN: 8 Q. Who, if any -- who do they 9 support -- which other experts do they support? 10 MS. STRICK: Objection. 11 I think, under the expert 12 stipulation, I instruct the witness not to 13 answer the question. 14 MS. GOODMAN: Which provision of 15 the expert stipulation? 16 MS. STRICK: It's 5.1.1 about the 17 content of communications. 18 MS. GOODMAN: Why is that the 19 content of any communications? It's simply 20 his knowledge, which is the same thing I've 21 been inquiring into for the last 22 few minutes.</p>	<p>1 under the expert stipulation to answer sort 2 of how you got that but not -- but -- but 3 just that. 4 You can answer -- answer yes -- 5 in a yes-or-no capacity. 6 Sorry. To your question. 7 MS. GOODMAN: What was that? 8 MS. STRICK: Yeah -- he can 9 answer sort of yes or no to the question. 10 MS. GOODMAN: Okay. 11 BY MS. GOODMAN: 12 Q. Okay. So, Professor Simcoe, how do 13 you know the fact that the four individuals you 14 named at The Brattle Group are supporting other 15 experts in this case for the Plaintiff? 16 A. I know this from -- 17 MS. STRICK: Objection: 18 mischaracterizes -- oh . . . 19 BY MS. GOODMAN: 20 Q. Go ahead. 21 A. I know this from conversations with 22 the people at The Brattle Group.</p>
Page 23	Page 25
<p>1 MS. STRICK: I think this gets 2 into more than just simply, I mean, again, 3 knowledge. At some point, he must have 4 gotten that information through 5 communications. I think -- I think it 6 crosses into the expert stipulation. 7 BY MS. GOODMAN: 8 Q. How do you know -- how did you 9 become aware of what other experts the four 10 individuals at The Brattle Group you named are 11 supporting? 12 A. Through -- 13 MS. STRICK: Again, doesn't this 14 come into communications with counsel? 15 MS. GOODMAN: I'm asking how he 16 became aware. I don't know that it is 17 communications. Let me ask the witness 18 that. If you're asserting that, he should 19 answer that; if not, he can answer my 20 questions. 21 MS. STRICK: So I think you can 22 answer -- again, I'll instruct the witness</p>	<p>1 Q. And were those conversations in 2 connection with your -- related to your actual 3 work for your expert reports? 4 MS. STRICK: Objection. 5 I'm going to instruct the witness 6 not to answer under the expert stipulation. 7 You can answer yes or no. 8 THE WITNESS: Yes. 9 BY MS. GOODMAN: 10 Q. Okay. Who -- with whom do you have 11 a -- a -- a retention letter? 12 A. I believe the United States -- 13 Q. Are you -- 14 A. -- Department of Justice. 15 Q. -- are you retained by any 16 Plaintiff states? 17 A. No. 18 Q. In the course of your work over the 19 last nine months on this matter, have you 20 communicated -- yes or no -- with any attorneys 21 for any Plaintiff states? 22 MS. STRICK: Yeah. Under the</p>

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<p style="text-align: right;">Page 26</p> <p>1 expert stipulation, yes or no.</p> <p>2 THE WITNESS: Not to my</p> <p>3 knowledge.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. You submitted two expert reports in</p> <p>6 this case, correct?</p> <p>7 A. Correct.</p> <p>8 Q. The first one was your opening</p> <p>9 report on December 22nd, 2023, correct?</p> <p>10 A. I believe so, yes.</p> <p>11 Q. Okay. When did you start -- well,</p> <p>12 first -- strike that.</p> <p>13 Who wrote that report?</p> <p>14 A. I did.</p> <p>15 Q. Who -- who did the first draft?</p> <p>16 A. I did.</p> <p>17 Q. When did you complete your first</p> <p>18 draft?</p> <p>19 MS. STRICK: Again, under the</p> <p>20 expert stipulation, you can answer as to</p> <p>21 the date.</p> <p>22 THE WITNESS: I can't, as I sit</p>	<p style="text-align: right;">Page 28</p> <p>1 your opening report?</p> <p>2 MS. STRICK: Again, under the</p> <p>3 expert stipulation, you can answer yes or</p> <p>4 no to this question.</p> <p>5 THE WITNESS: Yes.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. Let me ask more specifically.</p> <p>8 Did anybody other than yourself</p> <p>9 write or edit portions of your expert report?</p> <p>10 MS. STRICK: Under the expert</p> <p>11 stipulation, you can answer yes or no to</p> <p>12 this question.</p> <p>13 THE WITNESS: Yes.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Did individuals at</p> <p>16 The Brattle Group edit parts of your expert</p> <p>17 report?</p> <p>18 MS. STRICK: Under the expert</p> <p>19 stipulation, you can answer yes or no.</p> <p>20 THE WITNESS: Yes, they assisted</p> <p>21 in preparing the report.</p> <p>22</p>
<p style="text-align: right;">Page 27</p> <p>1 here, give you a precise date when the</p> <p>2 first draft of the report was completed.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Can you give an approximation?</p> <p>5 A. I would say that the report is</p> <p>6 something that evolves over time. I did the</p> <p>7 first draft of each section. Different sections</p> <p>8 might be completed as to a first draft at</p> <p>9 different points in time.</p> <p>10 It's hard to give you a precise</p> <p>11 date when the first draft was completed.</p> <p>12 Q. Okay. When did you begin drafting</p> <p>13 your report?</p> <p>14 MS. STRICK: Again, to the expert</p> <p>15 stipulation, you can answer as to date, but</p> <p>16 don't go into communications with counsel</p> <p>17 or any -- or . . .</p> <p>18 THE WITNESS: I was drafting</p> <p>19 material as -- I would think by May or June</p> <p>20 of 2023.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Okay. Did anybody else work on</p>	<p style="text-align: right;">Page 29</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And what did they do to assist you</p> <p>3 in preparing the report?</p> <p>4 MS. STRICK: Objection.</p> <p>5 Again, I think this falls under</p> <p>6 5.1.1 of the expert stipulation, so I'm</p> <p>7 going to instruct you not to answer.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. So you answered, "They assisted in</p> <p>10 preparing the report."</p> <p>11 Was one of the ways that they</p> <p>12 assisted by editing parts of your expert report?</p> <p>13 A. Yes.</p> <p>14 Q. How about attorneys for the</p> <p>15 United States? Did they edit parts of your</p> <p>16 report?</p> <p>17 MS. STRICK: Again, under expert</p> <p>18 stipulation, you can answer yes or no.</p> <p>19 THE WITNESS: No.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Okay. Your rebuttal report</p> <p>22 submitted -- was submitted on February 13th,</p>

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<p style="text-align: right;">Page 66</p> <p>1 THE WITNESS: I don't opine on</p> <p>2 the same questions as Professor Lee.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay. And is it accurate that do</p> <p>5 you not offer any independent opinions related to</p> <p>6 Professor Lee's conclusions?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: I believe that's</p> <p>9 correct.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. Okay. One of the aspects of</p> <p>12 Professor Lee's report that you rely upon is his</p> <p>13 definition of the relevant antitrust markets,</p> <p>14 correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: Yes.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. And you've done no independent work</p> <p>19 on that topic, correct?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: I was not asked to</p> <p>22 define an "antitrust market" in this case.</p>	<p style="text-align: right;">Page 68</p> <p>1 the record at 10:37 a.m.</p> <p>2 --oOo--</p> <p>3 (Whereupon, a recess was taken from</p> <p>4 10:37 a.m. EST to 10:49 a.m. EST.)</p> <p>5 --oOo--</p> <p>6 THE VIDEOGRAPHER: We're now back</p> <p>7 on the record at 10:49 a.m.</p> <p>8 You may proceed.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Professor Simcoe, can you turn to</p> <p>11 Paragraph 63 of your report on Page 28 -- your</p> <p>12 opening report, Simcoe 1?</p> <p>13 A. Yes.</p> <p>14 Q. And you see you write that Lee's</p> <p>15 report defines a set of relevant antitrust</p> <p>16 markets for publisher ad servers, ad exchanges</p> <p>17 and advertiser ad networks.</p> <p>18 The remainder of this</p> <p>19 Section III.A.1 stems largely from your review of</p> <p>20 Professor Lee's report, correct?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22 THE WITNESS: Not entirely.</p>
<p style="text-align: right;">Page 67</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And so is it accurate that you have</p> <p>3 not offered an opinion on what a relevant</p> <p>4 antitrust market in this case is?</p> <p>5 A. That's correct.</p> <p>6 Q. Okay. And if we turn to</p> <p>7 Paragraph 59 of your report, starting on Page 27.</p> <p>8 CERTIFIED STENOGRAPHER: I think</p> <p>9 we have to go off the record.</p> <p>10 MS. GOODMAN: Okay. We're going</p> <p>11 off the record.</p> <p>12 THE VIDEOGRAPHER: No; we're</p> <p>13 good.</p> <p>14 MS. GOODMAN: Oh.</p> <p>15 CERTIFIED STENOGRAPHER: Do you</p> <p>16 hear that hum?</p> <p>17 MS. STRICK: Why don't we take a</p> <p>18 break anyway and see if we can figure out</p> <p>19 the hum?</p> <p>20 THE WITNESS: Are we off the</p> <p>21 record?</p> <p>22 THE VIDEOGRAPHER: We're now off</p>	<p style="text-align: right;">Page 69</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. In large part, what you're doing</p> <p>3 here is summarizing what Professor Lee said?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: Not completely.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. I didn't ask in completely.</p> <p>8 Are you, in large part,</p> <p>9 summarizing what Professor Lee wrote in his</p> <p>10 report?</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: I summarized some</p> <p>13 of what Professor Lee says. I add my own</p> <p>14 remarks on these markets, and there are</p> <p>15 some figures that are based on analysis</p> <p>16 that I did myself.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. And setting aside your figures, you</p> <p>19 say you did your -- is it accurate you're saying</p> <p>20 you did some of your own analysis -- strike that.</p> <p>21 You said you make your own</p> <p>22 remarks on some of these markets.</p>

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<p style="text-align: right;">Page 70</p> <p>1 What are you referring to?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: This section</p> <p>4 summarizes the markets defined by</p> <p>5 Professor Lee; however -- I was thinking</p> <p>6 particularly of the figures -- I did my own</p> <p>7 analysis to provide information about these</p> <p>8 markets.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. And none of the figures that you're</p> <p>11 referencing -- well, first off, those are</p> <p>12 Figures 4 and 5, correct?</p> <p>13 A. Yes.</p> <p>14 Q. Okay. These figures assume that</p> <p>15 the relevant markets as defined by Professor Lee</p> <p>16 are the correct relevant markets in this case?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: Yes. In</p> <p>19 constructing these figures, I adopt</p> <p>20 Professor Lee's definition of the relevant</p> <p>21 antitrust markets.</p> <p>22</p>	<p style="text-align: right;">Page 72</p> <p>1 on your review of Professor Lee's report?</p> <p>2 A. Yes, as well as my own review of</p> <p>3 the evidence cited by Professor Lee and my work</p> <p>4 that I did to def- -- to define a but-for world</p> <p>5 for the damages analysis.</p> <p>6 Q. Okay. And Professor Lee concluded</p> <p>7 as well that Google's conduct resulted in</p> <p>8 materially higher fees paid by advertisers in the</p> <p>9 ad exchange market above the competitive rates</p> <p>10 that would have been paid but for Google's</p> <p>11 conduct; is that right?</p> <p>12 A. Professor Lee did not define a</p> <p>13 but-for world. So in my answer to your last</p> <p>14 question I referred to my own work in assessing</p> <p>15 how this conduct relates to the but-for world</p> <p>16 defined in my report --</p> <p>17 Q. So --</p> <p>18 A. -- I do believe Professor Lee</p> <p>19 concluded, based on his own analysis, that</p> <p>20 Google's conduct was exclusionary and resulted in</p> <p>21 materially higher fees paid by advertisers in the</p> <p>22 ad exchange market above competitive rates.</p>
<p style="text-align: right;">Page 71</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. And let's turn to Page --</p> <p>3 Paragraph 88 of your report.</p> <p>4 And in Paragraph 88, are you</p> <p>5 adopting Professor Lee's conclusions that</p> <p>6 Google's conduct was exclusionary and resulted in</p> <p>7 materially higher fees paid by advertisers in the</p> <p>8 ad exchange market above the competitive rates</p> <p>9 that would have been paid but for Google's</p> <p>10 conduct?</p> <p>11 A. Yes, I agree with his conclusion.</p> <p>12 Q. And it's his conclusion that</p> <p>13 Google's conduct was exclusionary?</p> <p>14 A. I believe --</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 You can answer.</p> <p>17 THE WITNESS: -- I believe that</p> <p>18 is an opinion in Professor Lee's report --</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And --</p> <p>21 A. -- and I agree with it.</p> <p>22 Q. Okay. And you agree with it based</p>	<p style="text-align: right;">Page 73</p> <p>1 Q. So it is your understanding that</p> <p>2 Professor Lee reached a conclusion that Google's</p> <p>3 conduct resulted in material -- materially higher</p> <p>4 fees paid by advertisers in the ad exchange</p> <p>5 market above the competitive rates that would</p> <p>6 have been paid but for Google's conduct?</p> <p>7 A. If you'd like to look at</p> <p>8 Professor Lee's report, we could go discuss the</p> <p>9 exact language that he uses.</p> <p>10 Q. I'm just asking what your</p> <p>11 understanding of what you wrote here is, whether</p> <p>12 Professor Lee, in fact, reached a conclusion that</p> <p>13 the conduct resulted in materially higher fees.</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: Professor Lee's</p> <p>16 report concluded that the conduct was</p> <p>17 anticompetitive.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. Okay. Do you know, sitting here</p> <p>20 right now, whether he reached a conclusion that</p> <p>21 it resulted in materially higher fees?</p> <p>22 A. I don't know if he uses the phrase</p>



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<p style="text-align: right;">Page 74</p> <p>1 "materially higher fees" in his report.</p> <p>2 Q. Okay. Do you recall whether he did</p> <p>3 any such analysis?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: What type of</p> <p>6 analysis do you have in mind?</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Some kind of analysis to conclude</p> <p>9 that Google's conduct resulted in materially</p> <p>10 higher fees.</p> <p>11 A. Professor Lee did not do the</p> <p>12 analysis that I did, which is to define a</p> <p>13 but-for world and consider the change in Google's</p> <p>14 take rate relative to the as-is world. I know</p> <p>15 that.</p> <p>16 Q. Okay. And if you look at your</p> <p>17 Figure 9, this is a reproduction of a figure</p> <p>18 summarizing the anticompetitive -- the alleged</p> <p>19 anticompetitive acts of Google, correct?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: Yes, this is a -- a</p> <p>22 reproduction of a figure from</p>	<p style="text-align: right;">Page 76</p> <p>1 THE WITNESS: I reviewed</p> <p>2 Professor Lee's definition of the relevant</p> <p>3 markets and the conduct. I considered what</p> <p>4 Google conduct was ongoing during the</p> <p>5 damages period, and I considered my own</p> <p>6 understanding of antitrust economics and</p> <p>7 the feasibility of assessing a but-for take</p> <p>8 rate relative to excluding different types</p> <p>9 of conduct.</p> <p>10 And I arrived at a conclusion</p> <p>11 that these three would constitute a group</p> <p>12 of conduct that allowed for a reliable</p> <p>13 assessment of what the prices in a</p> <p>14 competitive but-for world would look like.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Did you do any analysis to</p> <p>17 determine that the but-for world which you've</p> <p>18 constructed would have, in fact, occurred but for</p> <p>19 the conduct alleged?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: In my report, I</p> <p>22 explain the reasons for my conclusion that</p>
<p style="text-align: right;">Page 75</p> <p>1 Professor Lee's report.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. And you focus on three categories</p> <p>4 of conduct in your report, correct?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: I would say many</p> <p>7 categories of conduct are relevant but that</p> <p>8 the but-for world in my report is defined</p> <p>9 as removing three categories of conduct</p> <p>10 that are summarized in this figure.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. And those three categories of</p> <p>13 conduct are what, sir?</p> <p>14 A. They're the tie or exclusivity</p> <p>15 arrangement between Google Ads and AdX, the tie</p> <p>16 or exclusivity arrangement between AdX and DFP as</p> <p>17 to real-time -- access to real-time bidding, and</p> <p>18 the variable floor restrictions or UPR rules that</p> <p>19 DFP adopted.</p> <p>20 Q. And how did you select those three</p> <p>21 con- -- categories for your but-for world?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 77</p> <p>1 but for the conduct, the AdX take rate</p> <p>2 would be lower, and then I quantify that.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Did you conclude that the other</p> <p>5 anticompetitive acts alleged in this case and</p> <p>6 reflected in Figure 9 would not provide for a</p> <p>7 reliable assessment of what prices would look</p> <p>8 like in a but-for world?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Could you repeat</p> <p>11 that question?</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. Did you conclude that the other</p> <p>14 anticompetitive acts alleged in this case, which</p> <p>15 you did not consider, would not provide for a</p> <p>16 reliable assessment of what prices would look</p> <p>17 like in a but-for world?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: So I believe you</p> <p>20 misstated what I earlier testified to in</p> <p>21 your question.</p> <p>22 I -- I have considered all of the</p>

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<p>1 conduct.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. And in considering the</p> <p>4 conduct not reflected by the three arrows in your</p> <p>5 Figure 9, did you reach a conclusion as to those</p> <p>6 conducts that constructing a but-for world</p> <p>7 without them would not result in a reliable</p> <p>8 assessment of what prices would look like in a</p> <p>9 but-for world?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: As I mentioned</p> <p>12 earlier, some of that conduct ended prior</p> <p>13 to the start of the damages period, for</p> <p>14 instance, the acquisitions. They're</p> <p>15 difficult to unwind in assessing a</p> <p>16 but-for world.</p> <p>17 As I describe in my report, all</p> <p>18 of that conduct affects Google's market</p> <p>19 power at the start of the damages period</p> <p>20 through its scale, and that conduct is</p> <p>21 relevant in that sense.</p> <p>22 But I do not contemplate removing</p>	<p>1 in the conduct that is used to define the</p> <p>2 but-for world, but I consider AdMeld as</p> <p>3 part of the anticompetitive conduct that</p> <p>4 creates the market power that Google had at</p> <p>5 the start of the damages period.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. And so how do you consider AdMeld</p> <p>8 as part of the anticompetitive conduct -- strike</p> <p>9 that.</p> <p>10 How do you incorporate the</p> <p>11 AdMeld acquisition into your analysis in this</p> <p>12 case --</p> <p>13 MS. STRICK: Objection --</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. -- in calculating an AdX -- but-for</p> <p>16 AdX take rate?</p> <p>17 MS. STRICK: -- objection: form.</p> <p>18 THE WITNESS: The AdMeld</p> <p>19 acquisition is one of the other categories</p> <p>20 of conduct that leads to the initial</p> <p>21 conditions of my analysis, which are that</p> <p>22 Google has market power in the exchange</p>
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<p>1 that other conduct in characterizing the</p> <p>2 but-for world, that is, the but-for world I</p> <p>3 use in the damages assessment.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. And why do you not contemplate</p> <p>6 removing that other conduct in characterizing the</p> <p>7 but-for world that you use?</p> <p>8 A. It's not necessary.</p> <p>9 Q. Why not?</p> <p>10 A. I was able to assess the damage</p> <p>11 related to this type of conduct, where this type</p> <p>12 of conduct is grounded in the market power</p> <p>13 associated with Google's other conduct that is</p> <p>14 alleged in this case.</p> <p>15 Q. Did you analyze whether the</p> <p>16 first/last-look exclusivity -- strike that.</p> <p>17 Did you analyze whether the</p> <p>18 AdMeld acquisition contributed to a</p> <p>19 supercompetitive take rate on AdX?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: As my report</p> <p>22 explains, the ad -- I don't include AdMeld</p>	<p>1 market. My analysis is a quantification or</p> <p>2 a measurement of Google's market power</p> <p>3 based on the conduct.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. So is it your testimony -- am I</p> <p>6 understanding you correctly that the AdMeld</p> <p>7 acquisition is incorporated in your analysis when</p> <p>8 you calculate the as-is take rate?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: I think that's a</p> <p>11 fair characterization that the conduct that</p> <p>12 is not used to define the but-for world is</p> <p>13 conduct that creates market power that</p> <p>14 affects Google's as-is prices during the</p> <p>15 damages period.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. And the other categories of conduct</p> <p>18 which fall into that characterization include</p> <p>19 first/last-look exclusivity; is that right?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: In the</p> <p>22 but-for world, I consider the effect of</p>

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<p style="text-align: right;">Page 82</p> <p>1 making exclusivity to real-time bidding on</p> <p>2 DFP -- of taking away exclusivity of</p> <p>3 real-time bidding on DFP. I don't recall</p> <p>4 whether there's any -- you know, there may</p> <p>5 be small bits of first- and last-look</p> <p>6 exclusivity that are bundled into the</p> <p>7 exclusive access to real-time bidding.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. When you are saying that in the</p> <p>10 but-for world, you consider the effect of making</p> <p>11 exclusivity to real-time bidding on DFP, that's</p> <p>12 -- that's your reference to the ad exclusivity;</p> <p>13 is that correct?</p> <p>14 A. Sorry. Would you repeat that?</p> <p>15 Q. Are you referring to the box here</p> <p>16 in your Figure 9, AdX Exclusivity?</p> <p>17 A. Yes.</p> <p>18 Q. Okay. And the first/last-look</p> <p>19 exclusivity -- that is not what you're</p> <p>20 referencing in the other orange arrow, correct?</p> <p>21 A. Correct.</p> <p>22 Q. You're referencing variable floor</p>	<p style="text-align: right;">Page 84</p> <p>1 look is still tied to the exclusivity in</p> <p>2 the other box. That's what -- that was my</p> <p>3 thought.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. And is some of the first/last loose</p> <p>6 -- last-look exclusivity also tied to the</p> <p>7 variable for -- floor restriction, which is in</p> <p>8 the same box?</p> <p>9 A. It depends on what you mean by</p> <p>10 "tied to."</p> <p>11 Q. I'm using your words, sir.</p> <p>12 What do you mean?</p> <p>13 A. Well, when I was talking about not</p> <p>14 a link between variable floor restrictions and</p> <p>15 first/last-look exclusivity but between AdX</p> <p>16 exclusivity and first/last-look exclusivity, by</p> <p>17 "tied to," I meant that the exclusive access to</p> <p>18 real-time bidding from AdX into DFP might be</p> <p>19 related to the other kinds of technological</p> <p>20 conduct that enable first- or last-look</p> <p>21 exclusivity.</p> <p>22 And so it's not clear what -- to me</p>
<p style="text-align: right;">Page 83</p> <p>1 restrictions, correct?</p> <p>2 A. That box has variable floor</p> <p>3 restrictions and first and last look in it.</p> <p>4 Q. Right. And so -- but your orange</p> <p>5 arrow, which corresponds to the three categories</p> <p>6 of conduct that you are considering in your</p> <p>7 but-for world -- that bottom orange arrow refers</p> <p>8 to the variable floor restrictions listed in that</p> <p>9 box, correct?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: Variable floor</p> <p>12 restrictions are in that box. The arrow is</p> <p>13 associated with the box. And I focus on</p> <p>14 variable floor restrictions in my report.</p> <p>15 As I said, I don't recall whether</p> <p>16 there are some -- you know, I do recall</p> <p>17 that last look ended with the transition to</p> <p>18 unified first price auctions. I'm not sure</p> <p>19 why first/last look is still inside the</p> <p>20 box.</p> <p>21 So my testimony was that it may</p> <p>22 be that some small piece of first and last</p>	<p style="text-align: right;">Page 85</p> <p>1 in that context, what you mean by "tied to" in</p> <p>2 the -- the case of variable floor and first/last</p> <p>3 look except that they're in the same box.</p> <p>4 Q. So is it -- am I correct in</p> <p>5 understanding your -- well, does your opinions</p> <p>6 with respect to the variable for -- floor</p> <p>7 restriction in the but-for world at all relate to</p> <p>8 the other thing represented in the same box,</p> <p>9 first/last-look exclusivity?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: My opinions are</p> <p>12 focused on variable floor restrictions.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. And so when you said first/last</p> <p>15 look may have some relation to AdX exclusivity,</p> <p>16 does -- is that also true for first/last look</p> <p>17 having some relation to variable floor</p> <p>18 restrictions?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: Not to my</p> <p>21 knowledge.</p> <p>22</p>

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<p>1 is a tool that allows Google Ads advertisers to</p> <p>2 bid into non-AdX exchanges, right?</p> <p>3 A. Yes, that's my understanding.</p> <p>4 Q. And so in Paragraph 94 of your</p> <p>5 report, back at Exhibit 1, you -- the first few</p> <p>6 words say, AdX's exclusive access to Google Ads</p> <p>7 advertisers.</p> <p>8 Is that accurate?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Just a moment ago,</p> <p>11 I testified that throughout my two reports,</p> <p>12 I use the term "near exclusive." And it</p> <p>13 seems I left out the "near" here. But</p> <p>14 overall, I think it's accurate.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Okay. And do you have an opinion</p> <p>17 one way or another, based on Dr. Israel's graph</p> <p>18 here showing that somewhere between 11 and</p> <p>19 15 percent of spending by Google Ads advertisers</p> <p>20 occurs on third-party exchanges, would change</p> <p>21 your analysis at all?</p> <p>22 MS. STRICK: Objection: form.</p>	<p>1 on Dr. Israel's chart.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. And in your but-for world,</p> <p>4 when we -- I want to focus now on the tie between</p> <p>5 AdX and DFP. It's your opinion that in such a</p> <p>6 but-for world, AdX advertisers would be able to</p> <p>7 submit more real-time bids into third-party</p> <p>8 publisher ad servers, making alternatives to DFP</p> <p>9 more attractive to publishers, correct?</p> <p>10 A. Yes.</p> <p>11 Q. Okay. And did you do anything to</p> <p>12 -- to analyze whether that, in fact, would happen</p> <p>13 if there were no tie between AdX and DFP?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: I did a similar</p> <p>16 analysis to the one I described in looking</p> <p>17 at the first tie.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. Which is what?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: I reviewed</p> <p>22 information both on my own and in</p>
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<p>1 THE WITNESS: In looking at his</p> <p>2 figure, I would think that in 2015,</p> <p>3 99 percent of the spending occurred on</p> <p>4 non-Google exchanges -- sorry, other way</p> <p>5 around -- on Google and that the share of</p> <p>6 spending on Google never dropped below</p> <p>7 85 percent.</p> <p>8 As I explained earlier, I think</p> <p>9 it's likely that on an impression basis,</p> <p>10 the share transacted on AdX is even higher.</p> <p>11 So I see no reason to change my own</p> <p>12 conclusions.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. Okay. And so when 15 percent of</p> <p>15 spending goes on third-party exchanges, is it</p> <p>16 still your testimony -- still your testimony that</p> <p>17 there is near-exclusive access to Google Ads</p> <p>18 advertisers only through AdX?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: Yes, as I</p> <p>21 explained, I would like to see what this is</p> <p>22 on a volume basis, as well, before relying</p>	<p>1 Professor Lee's report related to his</p> <p>2 conclusions about the effects of the tie</p> <p>3 between AdX and DFP.</p> <p>4 I have my own understanding of</p> <p>5 the economics of two-sided markets that</p> <p>6 allows me to conclude that the access to</p> <p>7 the demand on AdX via third-party exchanges</p> <p>8 would be attractive to third-party --</p> <p>9 third-party exchanges would become more</p> <p>10 attractive were they able to effectively</p> <p>11 compete against DFP, and that leads me to</p> <p>12 conclude that third-party -- what did I</p> <p>13 say, "exchanges"? -- third-party ad servers</p> <p>14 would be more competitive in a world but</p> <p>15 for the tie between AdX and DFP.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Okay.</p> <p>18 A. I apologize for messing up</p> <p>19 "exchange" and "ad server."</p> <p>20 Q. It's -- it's a difficult</p> <p>21 terminology.</p> <p>22 What information did you review</p>

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<p style="text-align: right;">Page 158</p> <p>1 on your own in order to conclude that third-party</p> <p>2 exchanges -- that third-party ad -- sorry -- that</p> <p>3 third-party -- let's try this again.</p> <p>4 What information did you review</p> <p>5 on your own in order to conclude that third-party</p> <p>6 ad servers would be more competitive in a world</p> <p>7 but for the tie between AdX and DFP?</p> <p>8 A. Well, there's two categories that</p> <p>9 are relevant. One category is background</p> <p>10 economics. I've read many, many papers about</p> <p>11 markets with indirect network effects, and that</p> <p>12 informs my thinking about this topic.</p> <p>13 The second category is evidence</p> <p>14 produced in this case. There's -- I'm looking at</p> <p>15 Section III.C.2 in my report about tying AdX to</p> <p>16 DFP -- this might be in my rebuttal -- no, this</p> <p>17 is in my opening report. And I -- there are a</p> <p>18 number of sources of information cited here. I</p> <p>19 couldn't tell you whether those are independent</p> <p>20 from Professor Lee or not.</p> <p>21 Q. Okay. You also reviewed</p> <p>22 Professor Weintraub's report, correct?</p>	<p style="text-align: right;">Page 160</p> <p>1 his assignment and my own with any great</p> <p>2 level of detail.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay. Did you do any work to</p> <p>5 conclude whether Professor Weintraub's opinions</p> <p>6 were reliable, or are you just simply finding</p> <p>7 them persuasive upon reading his report?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: I -- I reviewed his</p> <p>10 analysis and conclusions and, as I said, I</p> <p>11 found them persuasive. They seemed -- they</p> <p>12 made sense, to me. Where I was able to map</p> <p>13 what he was doing onto things that I might</p> <p>14 do. I thought they made sense.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And -- let me ask it this way: The</p> <p>17 way that you found Professor Weintraub's report</p> <p>18 persuasive, is it -- did you do the same amount</p> <p>19 of work or the same kind of work with respect to</p> <p>20 that report as you did with Dr. Lee's report,</p> <p>21 meaning you reviewed it and found it persuasive</p> <p>22 but formed no independent conclusions?</p>
<p style="text-align: right;">Page 159</p> <p>1 A. Yes.</p> <p>2 Q. And what did he conclude?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: I can't recall all</p> <p>5 of Professor Weintraub's conclusions, as I</p> <p>6 sit here. His report spoke to the effects</p> <p>7 of Google's conduct with respect to scale</p> <p>8 and the role that scale plays in the</p> <p>9 relevant antitrust markets.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. And how much time did you spend</p> <p>12 reviewing Professor Weintraub's report?</p> <p>13 A. Several hours.</p> <p>14 Q. Okay. And did you do any</p> <p>15 independent analysis to evaluate the same</p> <p>16 question he looked at?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: It's possible. I</p> <p>19 can't say. I was given a different</p> <p>20 assignment than Professor Weintraub's, and</p> <p>21 so as I sit here, I can't really</p> <p>22 characterize the degree of overlap between</p>	<p style="text-align: right;">Page 161</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: Sorry. I don't --</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Yeah. Let me try that again.</p> <p>5 For Professor Lee, you wrote in</p> <p>6 your report, I do not offer any independent</p> <p>7 opinions related to Professor Lee's conclusions.</p> <p>8 Do you offer any independent</p> <p>9 opinions related to Dr. -- to</p> <p>10 Professor Weintraub's opinions?</p> <p>11 A. No.</p> <p>12 Q. Okay. And then Professor Ravi, the</p> <p>13 same question: Did you review his report?</p> <p>14 A. Yes.</p> <p>15 Q. And did you -- do you offer any</p> <p>16 opinion -- independent opinions related to</p> <p>17 Professor Ravi's report?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: So I think our</p> <p>20 opinions are related and independent;</p> <p>21 however, I was given a different assignment</p> <p>22 than Professor Ravi, and I don't offer my</p>

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<p style="text-align: right;">Page 162</p> <p>1 own opinions on the issues that</p> <p>2 Professor Ravi was assigned to offer</p> <p>3 opinions on.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Okay. We've talked about the two</p> <p>6 ties that underlie your but-for world analysis.</p> <p>7 What is your understanding</p> <p>8 based on that Google has tied the AdX exchange to</p> <p>9 its advertiser ad network Google Ads?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Actually, let me withdraw the</p> <p>13 question.</p> <p>14 You understand that in</p> <p>15 antitrust economics, a tie is an arrangement in</p> <p>16 which a seller will sell a product, meaning the</p> <p>17 tying product, to a buyer only if the buyer</p> <p>18 agrees to purchase the other product, the tied</p> <p>19 product?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: That's a fair</p> <p>22 characterization of tying.</p>	<p style="text-align: right;">Page 164</p> <p>1 think it's appropriate to characterize the</p> <p>2 conduct as a tie, and I do.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay. And do you know -- are you</p> <p>5 aware there's only one tie as a matter of</p> <p>6 antitrust legal claims that the Plaintiffs assert</p> <p>7 in this case?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: My understanding is</p> <p>10 that both of the pieces of conduct that I</p> <p>11 characterize as a tie are alleged to be</p> <p>12 anticompetitive in the case. The precise</p> <p>13 underlying law is not something I've looked</p> <p>14 into.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Okay. And so the other tie you</p> <p>17 look at is between AdX and DFP, correct?</p> <p>18 A. Correct.</p> <p>19 Q. And in that scenario, what is the</p> <p>20 tying product and what is the tied product?</p> <p>21 A. In that scenario, the tying product</p> <p>22 is -- I think it's shown in the arrows in the</p>
<p style="text-align: right;">Page 163</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. And in the scenario you're</p> <p>3 considering of a tie between Ads and AdX, the --</p> <p>4 which is the tying product and which is the tied</p> <p>5 product?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: Here, the -- the</p> <p>8 analogy to tying -- we also use the -- the</p> <p>9 word -- or I use the word "exclusivity</p> <p>10 arrangement," I think, to characterize the</p> <p>11 same conduct. But the tying product would</p> <p>12 be Google Ads, and the tied product would</p> <p>13 be AdX.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Okay. And do you understand, as a</p> <p>16 matter of antitrust law, which -- what tying</p> <p>17 claims the United States is asserting in this</p> <p>18 case?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: I don't have a</p> <p>21 legal understanding of the tying claims. I</p> <p>22 -- you know, as a matter of economics, I</p>	<p style="text-align: right;">Page 165</p> <p>1 figure here -- the tie -- I get this wrong all</p> <p>2 the time -- tying is AdX, right, to get -- to get</p> <p>3 access to AdX, yes, and tied is DFP.</p> <p>4 Q. And do you have an understanding as</p> <p>5 to which tie that you've considered is --</p> <p>6 actually underlies the tying claim that the</p> <p>7 Government asserts in this case?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: As I said, I</p> <p>10 haven't looked into what the basis of the</p> <p>11 legal claims are. I think both pieces of</p> <p>12 conduct can be characterized as ties, and I</p> <p>13 understand that both are being challenged</p> <p>14 as anticompetitive.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Okay. Have you read -- you've read</p> <p>17 the Complaint?</p> <p>18 A. Yes.</p> <p>19 Q. Okay. Do you recall from reading</p> <p>20 it which of the two ties which you discuss</p> <p>21 actually underlies the Government's tying claim?</p> <p>22 MS. STRICK: Objection: form.</p>



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<p style="text-align: right;">Page 170</p> <p>1 that some exchanges have certain</p> <p>2 characteristics that others don't have.</p> <p>3 And in that sense, the relative</p> <p>4 differentiation on that feature is large.</p> <p>5 But the evidence also suggests</p> <p>6 that on net -- the evidence I've seen</p> <p>7 didn't make me believe that on net, there</p> <p>8 were large differences in exchange quality</p> <p>9 on nonscale features across the exchanges.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. Okay. And did that -- strike that.</p> <p>12 MS. GOODMAN: All right. Do you</p> <p>13 want to take a lunch break now?</p> <p>14 MS. STRICK: I'll take lunch.</p> <p>15 THE WITNESS: Okay.</p> <p>16 THE VIDEOGRAPHER: We're now off</p> <p>17 the record at 1:02 p.m.</p> <p>18 --oOo--</p> <p>19 (Whereupon, at 1:02 p.m. EST, a</p> <p>20 luncheon recess was taken.)</p> <p>21 --oOo--</p> <p>22</p>	<p style="text-align: right;">Page 172</p> <p>1 THE WITNESS: Yes, it's a</p> <p>2 regression model of the average take rate</p> <p>3 regressed on average -- every CPM. It also</p> <p>4 illustrates some other things, but yes.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. And in Paragraph 87, you write,</p> <p>7 Extrapolating from the linear regression model,</p> <p>8 AdX's predicted take rate based on its average</p> <p>9 CPM would be 10 percent.</p> <p>10 Correct?</p> <p>11 A. Yes.</p> <p>12 Q. And the predicted take rate that</p> <p>13 you predict from Figure 8 -- that never bore out</p> <p>14 in any of your analyses, correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: What do you mean by</p> <p>17 bore out in any of my analyses?</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. The actual analyses that you</p> <p>20 conducted to figure out AdX's but-for take rate</p> <p>21 never yielded a 10 percent but-for take rate,</p> <p>22 correct?</p>
<p style="text-align: right;">Page 171</p> <p>1 AFTERNOON SESSION</p> <p>2 (1:38 p.m. EST)</p> <p>3 --oOo--</p> <p>4 TIMOTHY S. SIMCOE, PH.D.,</p> <p>5 was called for continued examination and, after</p> <p>6 having been previously duly sworn, was examined</p> <p>7 and testified further as follows:</p> <p>8 --oOo--</p> <p>9 THE VIDEOGRAPHER: We're now back</p> <p>10 on the record at 1:38 p.m.</p> <p>11 You may proceed.</p> <p>12 --oOo--</p> <p>13 EXAMINATION (CONTINUED) BY COUNSEL FOR DEFENDANT</p> <p>14 --oOo--</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Professor Simcoe, let's turn in</p> <p>17 your report to Paragraph 87.</p> <p>18 And Paragraph 87 discusses your</p> <p>19 Figure 8, which is a linear -- linear regression</p> <p>20 model plotting average CPM against average take</p> <p>21 rate by exchange, correct?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 173</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: I think that there</p> <p>3 are some other regressions that have -- in</p> <p>4 the histogram of results and the appendix</p> <p>5 to the rebuttal report that might go as low</p> <p>6 as that in the robustness analyses I did.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. But the -- but the but-for take</p> <p>9 rate that you offer in this case as a reliable</p> <p>10 estimate of a but-for take rate is not</p> <p>11 10 percent, correct?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: The main figures at</p> <p>14 the back of my report, where I report my</p> <p>15 conclusions as to a -- I want to get this</p> <p>16 right -- is upper bound on the reliable</p> <p>17 but-for take rate do not report a</p> <p>18 10 percent number in them.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And which figure are you looking</p> <p>21 at?</p> <p>22 A. I believe it's Figure 22.</p>

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<p style="text-align: right;">Page 174</p> <p>1 Q. Okay. And so these are the but-for</p> <p>2 take rates that you put forward should -- would</p> <p>3 exist in the but-for world?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: I do a large number</p> <p>6 of analyses, including some of the</p> <p>7 robustness ones that I mentioned earlier,</p> <p>8 but Figure 2 summarizes the baseline</p> <p>9 results of my analysis.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. Okay. And you -- you mean</p> <p>12 Figure 22?</p> <p>13 A. Yes. What -- sorry. Figure 22.</p> <p>14 Q. Okay. And in Figure 8, you're</p> <p>15 using seven data points -- seven observations in</p> <p>16 your analysis, correct?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: Where was that?</p> <p>19 Here it is.</p> <p>20 Yes. I use impression weights, I</p> <p>21 believe, in this regression, but the</p> <p>22 regression line is fitted to the</p>	<p style="text-align: right;">Page 176</p> <p>1 THE WITNESS: Yes. I think I say</p> <p>2 that somewhere.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. In Paragraph 85, right?</p> <p>5 A. Yeah. I'll take -- I'll take your</p> <p>6 word for it, yes.</p> <p>7 Q. Okay. And also that -- you agree</p> <p>8 that CPM -- average CPM differs across exchanges</p> <p>9 based on the differences in demand, cost and</p> <p>10 other features of the auction process across the</p> <p>11 exchanges?</p> <p>12 A. Could you repeat that one?</p> <p>13 Different -- or point me to where I wrote it.</p> <p>14 Q. Paragraph 85, the first sentence.</p> <p>15 A. Yes.</p> <p>16 Q. And so your Figure 8 does not</p> <p>17 consider the differences in other features of the</p> <p>18 auction process across the exchanges, correct?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: That regression</p> <p>21 does not control explicitly. It simply</p> <p>22 takes an average CPM -- my recollection is</p>
<p style="text-align: right;">Page 175</p> <p>1 weight -- you know, it's a weighted</p> <p>2 regression that's fitted to the average</p> <p>3 take rate and the average CPM of the seven</p> <p>4 exchanges, excluding AdX, that are shown in</p> <p>5 the figure.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. And it's from that regression that</p> <p>8 uses seven observations from which you say there</p> <p>9 could be a predicted take rate of 10 percent?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: I said if you</p> <p>12 extrapolate from that specific regression</p> <p>13 model, which just means if you read off the</p> <p>14 gray line, conditioning only on CPM, the --</p> <p>15 the predicted value of that regression</p> <p>16 would be around 10 percent if a exchange</p> <p>17 had the same average CPM as AdX.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. And in Paragraph -- well -- you</p> <p>20 agree that CPM is influenced by differences in</p> <p>21 the nature and quality of publisher inventory?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 177</p> <p>1 it's the average CPM over the same period</p> <p>2 that is used to construct -- I guess the</p> <p>3 earlier -- there's some earlier figures</p> <p>4 that show CPMs by exchange or -- it's the</p> <p>5 same as Figure 7 and Figure -- in any case,</p> <p>6 my point is that it's -- it's a average</p> <p>7 over many months of data that I used to</p> <p>8 construct the -- the mean CPM that's then</p> <p>9 used in the regression.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. And in your work as an economist,</p> <p>12 do you typically draw conclusions from a</p> <p>13 regression that has only seven observations?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: It depends on the</p> <p>16 type of conclusions you have in mind.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. What kinds of instances is it</p> <p>19 appropriate in the generally accepted standards</p> <p>20 of economics to draw a conclusion from a</p> <p>21 regression with only seven observations?</p> <p>22 A. I'm not sure how to interpret all</p>

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<p style="text-align: right;">Page 178</p> <p>1 of the front end of that question, but I might do</p> <p>2 something like this in -- depending on what sort</p> <p>3 of data I have to understand if a line fits a set</p> <p>4 of points, right.</p> <p>5 So seven data points is sufficient</p> <p>6 to estimate a univariant regression, like I do</p> <p>7 here, that is, a regression that uses one control</p> <p>8 variable. And the answer is it depends. You</p> <p>9 know, sometimes one might draw conclusions from</p> <p>10 that; other times, one might not.</p> <p>11 Q. And do you draw a conclusion from</p> <p>12 this regression in Figure 8 as to what the</p> <p>13 but-for world should look like or would look</p> <p>14 like?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: A conclusion as to</p> <p>17 what the but-for world . . .</p> <p>18 Figure 8 is used to illustrate</p> <p>19 the unique, say, competitive position of</p> <p>20 AdX. I think it can inform the analysis</p> <p>21 that I do, but Figure 8 is not a direct</p> <p>22 input into the numbers that I report in</p>	<p style="text-align: right;">Page 180</p> <p>1 I haven't been asked to analyze</p> <p>2 what's the lowest possible take rate. I'm</p> <p>3 not offering an opinion as to that.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Are you offering an opinion that in</p> <p>6 the but-for world you construct, the but-for take</p> <p>7 rate is 10 percent?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: I have no analysis</p> <p>10 -- how to say it.</p> <p>11 No, I'm not offering an opinion</p> <p>12 that the but-for take rate is 10 percent.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. Okay. Would it be reliable, in</p> <p>15 your view as an economist, to calculate damages</p> <p>16 based on a but-for take rate of 10 percent based</p> <p>17 on the work you did in this regression in</p> <p>18 Figure 8?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: As I said, Figure 8</p> <p>21 informs my analysis, and so Figure 8 is</p> <p>22 part of what I've done here. And in that</p>
<p style="text-align: right;">Page 179</p> <p>1 Figure 22, or whatever it was that we</p> <p>2 discussed earlier.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. And do you draw a conclusion from</p> <p>5 the regression in Figure 8 that in a</p> <p>6 but-for world, AdX's predicted but-for take rate</p> <p>7 would be 10 percent?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: As I said, Figure 8</p> <p>10 informs my analysis, but it's not, on its</p> <p>11 own, the basis for any conclusion about the</p> <p>12 take rates in the but-for world.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. So is it fair to say you are not</p> <p>15 offering an opinion in this case that the but-for</p> <p>16 take rate is 10 percent?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: The opinion that I</p> <p>19 discussed earlier -- I -- I mentioned that</p> <p>20 I view the numbers in Figure 22 as an upper</p> <p>21 bound for the take rate in the</p> <p>22 but-for world.</p>	<p style="text-align: right;">Page 181</p> <p>1 sense, it's relied upon.</p> <p>2 I do not rely on Figure 8</p> <p>3 standing on its own -- the regression in</p> <p>4 Figure 8 standing on its own.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. And would it be, therefore,</p> <p>7 inappropriate for a fact-finder to rely on a</p> <p>8 10 percent but-for take rate to calculate</p> <p>9 damages?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: It depends.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. What does it depend on?</p> <p>14 A. Well, your question was whether it</p> <p>15 would be appropriate for them to --</p> <p>16 Q. That's fair --</p> <p>17 A. -- use 10 percent.</p> <p>18 Q. -- let me rephrase my question.</p> <p>19 Would it be reliable as a</p> <p>20 matter of economics for a fact-finder to rely on</p> <p>21 a 10 percent but-for take rate to calculate</p> <p>22 damages in this case when that 10 percent take</p>

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<p style="text-align: right;">Page 182</p> <p>1 rate is derived solely from your regression in</p> <p>2 Figure 8?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: I would, as a</p> <p>5 matter of economics, look to see more than</p> <p>6 Figure 8 standing on its own, though I</p> <p>7 think a fact-finder can reasonably rely on</p> <p>8 Figure 8 in forming a determination of the</p> <p>9 but-for take rate, as I do in this report.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. And would it be reliable as a</p> <p>12 matter of economics for a fact-finder to look at</p> <p>13 Figure 8 standing on its own in calculating</p> <p>14 damages?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I think Figure 8</p> <p>17 can form part of a reliable analysis, as it</p> <p>18 does here. So it could be used, but it</p> <p>19 should be used along with all the other</p> <p>20 information that I use in doing my own</p> <p>21 analysis.</p> <p>22</p>	<p style="text-align: right;">Page 184</p> <p>1 A. Do you know what it is a p-value</p> <p>2 of?</p> <p>3 Q. The regression.</p> <p>4 A. I'm sorry --</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. The p-value that she calculated for</p> <p>8 the regression is .375.</p> <p>9 You read that in her report?</p> <p>10 MS. STRICK: Objection:</p> <p>11 foundation.</p> <p>12 THE WITNESS: I read her report.</p> <p>13 As I said, I don't recall the specifics and</p> <p>14 I know that she did some analysis that</p> <p>15 could have produced a p-value.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Okay. And a p-value of .375 is too</p> <p>18 high to be considered con- -- statistically</p> <p>19 significant.</p> <p>20 Do you agree with that as a</p> <p>21 matter of economics --</p> <p>22 MS. STRICK: Objection:</p>
<p style="text-align: right;">Page 183</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. And it -- thus, you agree it</p> <p>3 would not be appropriate as a matter of economics</p> <p>4 to use 10 percent as a but-for take rate standing</p> <p>5 alone?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: It depends.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. But you don't do that in your</p> <p>10 report, do you?</p> <p>11 A. I do not use Figure 8 as the</p> <p>12 stand-alone basis for opinions in my report.</p> <p>13 Q. And you read Professor Chevalier's</p> <p>14 report, correct?</p> <p>15 A. Yes.</p> <p>16 Q. And she calculated a p-value of</p> <p>17 that -- of your regression in Figure 8, right?</p> <p>18 A. She did some -- I don't -- I don't</p> <p>19 recall specifically what she did, but I think she</p> <p>20 did something of that nature, yes.</p> <p>21 Q. And the p-value she calculated was</p> <p>22 .375?</p>	<p style="text-align: right;">Page 185</p> <p>1 foundation --</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. -- and statistics?</p> <p>4 MS. STRICK: -- objection:</p> <p>5 foundation and form.</p> <p>6 THE WITNESS: The standard</p> <p>7 practice -- so a p-value is -- it gives a</p> <p>8 likelihood of observing the data that we</p> <p>9 see under a null hypothesis. I don't know</p> <p>10 specifically what type of p-value you're</p> <p>11 referring to here, so I'm speculating a</p> <p>12 little. But a standard threshold for</p> <p>13 p-values is either 10 or 5 or 1 percent.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. And a p-value of .375 exceeds the</p> <p>16 standard thresholds, correct?</p> <p>17 MS. STRICK: Objection:</p> <p>18 foundation.</p> <p>19 THE WITNESS: Yes.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. And when a p-value exceeds a</p> <p>22 standard threshold, does that make the analysis</p>

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<p style="text-align: right;">Page 186</p> <p>1 that is being measured by that p-value unreliable</p> <p>2 as a matter of statistics?</p> <p>3 MS. STRICK: Objection:</p> <p>4 foundation and form.</p> <p>5 THE WITNESS: Again, we haven't</p> <p>6 said what kind of p-value we're referring</p> <p>7 to here.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Are you aware of any p-value that</p> <p>10 exceeds 10 percent that makes it statistically</p> <p>11 significant?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: So at some level,</p> <p>14 the binary decision rule that you're trying</p> <p>15 to impose here, like above this threshold,</p> <p>16 below this threshold, is an arbitrary</p> <p>17 choice. Those arbitrary choices are</p> <p>18 typically depending on the size and quality</p> <p>19 of the data that you have set at</p> <p>20 10 percent, 5 percent or 1 percent, as I</p> <p>21 testified.</p> <p>22 Whether you would use a number</p>	<p style="text-align: right;">Page 188</p> <p>1 Q. -- so she calculated a .375 percent</p> <p>2 -- or .375 p-value, which is equal to 37-1/2</p> <p>3 percent, correct?</p> <p>4 MS. STRICK: Objection:</p> <p>5 foundation.</p> <p>6 THE WITNESS: Correct.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Okay. And so that p-value exceeds</p> <p>9 the standard significant tests used, correct?</p> <p>10 MS. STRICK: Objection:</p> <p>11 foundation.</p> <p>12 THE WITNESS: Yes, that p-value</p> <p>13 is higher than the standard threshold of,</p> <p>14 say, 10 percent or 5 percent.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And Professor Chevalier Open web</p> <p>17 that your Figure 8 cannot reliably be used to</p> <p>18 predict an appropriate but-for revenue share for</p> <p>19 AdX.</p> <p>20 You did not respond to that</p> <p>21 critique in your rebuttal report, correct?</p> <p>22 MS. STRICK: Objection:</p>
<p style="text-align: right;">Page 187</p> <p>1 from a statistical analysis that has a .375</p> <p>2 attached to it depends on whether you could</p> <p>3 get better data, what kind of analysis</p> <p>4 you're doing, what kind of question you're</p> <p>5 asking, but it has an interpretation, like</p> <p>6 a one way -- you know, I'm probably not</p> <p>7 going to say this exactly correct because</p> <p>8 the statistics is subtle, but it's -- but</p> <p>9 the data -- there's a -- a chance of .375</p> <p>10 that even if there was no relationship you</p> <p>11 would observe, the relationship that you</p> <p>12 did measure in the data that frequently</p> <p>13 under repeated random sampling.</p> <p>14 Again, whether you would rely on</p> <p>15 it depends on the question you're asking,</p> <p>16 depends on what kind of p-value you have in</p> <p>17 mind.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. And so the p-value in this case</p> <p>20 that Professor Chevalier calculated as the</p> <p>21 p-value of the slope of the regression, okay --</p> <p>22 A. Okay.</p>	<p style="text-align: right;">Page 189</p> <p>1 foundation; form.</p> <p>2 THE WITNESS: I don't recall</p> <p>3 specifically responding to that critique.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Okay. So now I want to talk about</p> <p>6 your comparables or comparables approach.</p> <p>7 It's your testimony or your</p> <p>8 opinion that your comparables approach reflects a</p> <p>9 yardstick method; is that correct?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Or is a kind of a yardstick measure</p> <p>13 of damages?</p> <p>14 A. Yes. My rebuttal report relates</p> <p>15 the comparables approach as I employed it to a</p> <p>16 yardstick methodology.</p> <p>17 Q. And when you say it relates it to a</p> <p>18 yardstick methodology, are you opining that --</p> <p>19 that it is, in fact, a yardstick methodology?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: I explain why it is</p> <p>22 a type of yardstick methodology that</p>

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<p>1 produces a conservative result.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. And in your report at</p> <p>4 Paragraph 137 --</p> <p>5 A. My opening report?</p> <p>6 Q. Yes.</p> <p>7 -- you say, The basic idea</p> <p>8 behind your comparables approach is to find</p> <p>9 transactions that were not influenced by the</p> <p>10 relevant conduct and use the price of those</p> <p>11 transactions as a benchmark to estimate the</p> <p>12 counterfactual but-for price.</p> <p>13 Do you see that?</p> <p>14 A. Yes.</p> <p>15 Q. And so in this idea, you need to</p> <p>16 find transactions that were not influenced by the</p> <p>17 relevant conduct, correct?</p> <p>18 A. I explain why the effect that the</p> <p>19 relevant conduct could have had on the</p> <p>20 transactions that I use is to increase the take</p> <p>21 rate of those transactions, which leads to a</p> <p>22 conservative estimate under my threshold.</p>	<p>1 THE WITNESS: Control -- do I</p> <p>2 agree that there are -- could you repeat</p> <p>3 that?</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Do you agree that it is necessary</p> <p>6 to control for differences, in this case, between</p> <p>7 Google and those to whom you're comparing Google?</p> <p>8 A. The word "control" can have</p> <p>9 different meanings; but broadly speaking, one</p> <p>10 seeks to choose comparable transactions in a</p> <p>11 manner that makes them similar, except for the</p> <p>12 alleged conduct.</p> <p>13 Q. Okay. Do you also need to -- so</p> <p>14 what did you do in your comparables approach to</p> <p>15 compare -- to control for the things that makes</p> <p>16 Google similar or dissimilar to the other</p> <p>17 exchanges in your comparables approach?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: So part of the</p> <p>20 question's premise is wrong. I didn't</p> <p>21 select exchanges; I selected transactions.</p> <p>22 This was something I spent some time on in</p>
Page 191	Page 193
<p>1 Q. How are you confident that it leads</p> <p>2 to a conservative estimate, when you didn't</p> <p>3 measure for the increase in price allegedly</p> <p>4 charged by other exchanges?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: I explain this in</p> <p>7 my opening report. It's related to this --</p> <p>8 to the economic idea of strategic</p> <p>9 complementarities, which is to say that in</p> <p>10 -- under differentiated Bertrand</p> <p>11 competition, firms respond to price changes</p> <p>12 by other firms in the same direction, and</p> <p>13 it's standard in economics to make</p> <p>14 inferences about direction without trying</p> <p>15 to measure them.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Okay. Do you agree that when</p> <p>18 conducting yardstick damages analysis, you need</p> <p>19 to control for as many differences between the</p> <p>20 alleged violator and the groups against whom</p> <p>21 you're comparing the alleged violator?</p> <p>22 MS. STRICK: Objection: form.</p>	<p>1 the rebuttal report.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. Let's set that aside for a</p> <p>4 second because we'll get to that. But I -- I --</p> <p>5 I take the -- the point.</p> <p>6 But I just want to know, what</p> <p>7 did you do to control for any differences that</p> <p>8 don't relate to the alleged misconduct in the</p> <p>9 selection of your transactions or of your</p> <p>10 exchanges?</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: I chose</p> <p>13 transactions from the same relevant</p> <p>14 antitrust market, from --</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And --</p> <p>17 A. -- from -- from exchanges that</p> <p>18 didn't engage in the conduct.</p> <p>19 Q. -- and is there anything else that</p> <p>20 you did to evaluate the appropriateness of the</p> <p>21 transactions or exchanges that you chose as</p> <p>22 comparables?</p>

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<p style="text-align: right;">Page 222</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And did you consider the demand</p> <p>3 characteristics of the exchanges through which</p> <p>4 those comparable transactions flowed before</p> <p>5 deciding that those are, in fact, comparable?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: Yes.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. How?</p> <p>10 A. As we discussed, I reviewed</p> <p>11 information about differences between exchanges.</p> <p>12 I reviewed discussion of the open web display</p> <p>13 market in Professor Lee's report.</p> <p>14 The key differentiating feature</p> <p>15 that I identified in my review was scale, which</p> <p>16 is related to the difference that I measure</p> <p>17 between AdX and the comparables. And after</p> <p>18 finding no compelling evidence of other types of</p> <p>19 differentiation that, on net, produced a net</p> <p>20 quality difference, I used all of the</p> <p>21 transactions that were produced by exchanges that</p> <p>22 provided usable data.</p>	<p style="text-align: right;">Page 224</p> <p>1 Q. And your testimony is that in -- in</p> <p>2 Sections -- Section IV.A.1, you're describing</p> <p>3 what -- what characteristics you considered in</p> <p>4 order to arrive at a set of comparable</p> <p>5 transactions?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: Yes. And then I</p> <p>8 refer to Section III.A.1 for a discussion</p> <p>9 of characteristics of open web display</p> <p>10 advertising transactions.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. So you're looking at the</p> <p>13 characteristics across all open web display</p> <p>14 advertising transactions to set -- arrive at a</p> <p>15 set of comparable transactions?</p> <p>16 MS. STRICK: Objection: form.</p> <p>17 THE WITNESS: Yes.</p> <p>18 So I apologize for the delay.</p> <p>19 The discussion's broken across</p> <p>20 three parts of the report:</p> <p>21 Section III.A.1 describes the</p> <p>22 background research I did on display --</p>
<p style="text-align: right;">Page 223</p> <p>1 Q. And the process that you just</p> <p>2 testified to -- is that written in your opening</p> <p>3 report anywhere?</p> <p>4 A. I think so.</p> <p>5 Q. Where do you write that you did all</p> <p>6 of that work that you just described in order to</p> <p>7 arrive at a set of comparable transactions?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: This is my</p> <p>10 rebuttal.</p> <p>11 (Whereupon, the witness reviews</p> <p>12 the material provided.)</p> <p>13 THE WITNESS: So I provide a</p> <p>14 brief overview of the way that comparables</p> <p>15 were selected in Section IV.A.1 and more</p> <p>16 details about the data and what type of</p> <p>17 data makes a set of transactions provided</p> <p>18 by an exchange usable in Appendix C.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. So Appendix C describes what data</p> <p>21 was usable, correct?</p> <p>22 A. Yes.</p>	<p style="text-align: right;">Page 225</p> <p>1 open web display advertising transactions</p> <p>2 using tools in the relevant antitrust</p> <p>3 market.</p> <p>4 Paragraph 138 discusses the data</p> <p>5 used in the comparable approach.</p> <p>6 And then what makes data usable</p> <p>7 is described in Appendix C.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Okay. So in 138, where you say,</p> <p>10 Based on relevant characteristics, what are you</p> <p>11 referring to as the relevant characteristics that</p> <p>12 you considered in order to choose an appropriate</p> <p>13 set of comparable transactions?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: I describe the</p> <p>16 background research I did when I answered</p> <p>17 this question previously, but after</p> <p>18 reviewing characteristics of open web</p> <p>19 display transactions, I included all</p> <p>20 transactions produced by exchanges in the</p> <p>21 relevant antitrust market that produced</p> <p>22 usable data.</p>

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<p style="text-align: right;">Page 226</p> <p>1 MS. STRICK: Tim, we've been</p> <p>2 about an hour.</p> <p>3 Do you want a -- need a break?</p> <p>4 THE WITNESS: Okay.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. Well, I still have a few more</p> <p>7 questions, if you don't mind.</p> <p>8 A. We can go for a few more minutes.</p> <p>9 Q. Okay. So you mentioned that</p> <p>10 Google's scale is a different quality than other</p> <p>11 ad exchanges, correct -- that the -- the biggest</p> <p>12 quality differentiator, from your point of view,</p> <p>13 was scale, correct?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: In markets with</p> <p>16 indirect network effects, economics teaches</p> <p>17 generally that quantity is quality. Scale</p> <p>18 matters.</p> <p>19 I reviewed different kinds of</p> <p>20 evidence that suggest scale is an important</p> <p>21 source of demand for exchanges, and that's</p> <p>22 what I was referring to when I was</p>	<p style="text-align: right;">Page 228</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: As we discussed</p> <p>3 earlier, I've reviewed the reports of</p> <p>4 Professor Lee and Professor Weintraub and</p> <p>5 adopted their conclusions that Google's</p> <p>6 conduct leads to scale or equivalently</p> <p>7 denies scale to rival exchanges.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Is it possible for Google's scale</p> <p>10 to have come about through procompetitive</p> <p>11 conduct?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: There -- so</p> <p>14 Google's -- I think that some -- yeah, I</p> <p>15 guess some aspects of scale. But what</p> <p>16 we're referring to here -- what matters is</p> <p>17 differences in the relative size of the</p> <p>18 exchanges.</p> <p>19 And as I said, I have read the</p> <p>20 reports of others who were asked to</p> <p>21 specifically focus on the question of how</p> <p>22 scale is related to the alleged conduct and</p>
<p style="text-align: right;">Page 227</p> <p>1 discussing it earlier, yes.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. And how did you control for</p> <p>4 Google's scale relative to the other transactions</p> <p>5 among ad -- in ad exchanges that you put in your</p> <p>6 comparables analysis?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: What I was trying</p> <p>9 to say is that Google's scale in this case</p> <p>10 is a consequence of its anticompetitive --</p> <p>11 well, allegedly anticompetitive -- the</p> <p>12 conduct at issue in the case. And because</p> <p>13 that conduct is a driver of scale, the --</p> <p>14 the simple comparison that I do, the</p> <p>15 comparison of Google's average take rate to</p> <p>16 the weighted average take rate across the</p> <p>17 other exchanges -- the average take rate of</p> <p>18 impressions sold in the relevant market,</p> <p>19 captures the scale effect.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Is it your testimony that Google's</p> <p>22 scale is all a result of anticompetitive conduct?</p>	<p style="text-align: right;">Page 229</p> <p>1 adopted their conclusions.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. So my question is whether</p> <p>4 you controlled for scale in selecting your</p> <p>5 com- -- comparables, including whether the scale</p> <p>6 is as a result of anticompetitive conduct or a</p> <p>7 result of procompetitive conduct.</p> <p>8 Did you control for scale in</p> <p>9 either of those scenarios?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: In my view, it's</p> <p>12 not possible to control for scale in the</p> <p>13 way that you seem to be suggesting.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Is it possible to control for scale</p> <p>16 based on procompetitive -- scale obtained as a</p> <p>17 result of procompetitive conduct?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: The differences in</p> <p>20 scale between Google and other exchanges</p> <p>21 are reflected in their take rates and,</p> <p>22 therefore, reflected in the difference in</p>

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<p>1 take rates that I examine using the</p> <p>2 comparables approach.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. And where in your report do you say</p> <p>5 that the differences in scale are reflected in</p> <p>6 the take rate that you deduce in your comparables</p> <p>7 approach?</p> <p>8 A. I'm not sure if I say that</p> <p>9 explicitly in the report.</p> <p>10 Q. Okay.</p> <p>11 MS. GOODMAN: All right. We can</p> <p>12 take a break.</p> <p>13 THE VIDEOGRAPHER: We're now off</p> <p>14 the record at 2:42 p.m.</p> <p>15 --oOo--</p> <p>16 (Whereupon, a recess was taken from</p> <p>17 2:42 p.m. EST to 2:57 p.m. EST.)</p> <p>18 --oOo--</p> <p>19 THE VIDEOGRAPHER: We're now back</p> <p>20 on the record at 2:57 p.m.</p> <p>21 You may proceed.</p> <p>22</p>	<p>1 report.</p> <p>2 Q. You say you did not give a lot of</p> <p>3 consideration to identifying a different market.</p> <p>4 How much -- how much time did</p> <p>5 you spend thinking about that question?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: I couldn't tell</p> <p>8 you. I thought about it, but I can't give</p> <p>9 you an estimate of the amount of time I</p> <p>10 spent thinking about other markets that are</p> <p>11 similar to this market as the basis for the</p> <p>12 comparables analysis.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. And you say it was your view that</p> <p>15 it would be difficult to identify another -- a</p> <p>16 different market.</p> <p>17 Why is that?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: In my experience</p> <p>20 applying the comparables method in various</p> <p>21 contexts, choosing the comparables is</p> <p>22 always contentious. And this market has</p>
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<p>1 BY MS. GOODMAN:</p> <p>2 Q. Professor Simcoe, you recognize in</p> <p>3 the traditional yardstick approach, you are to</p> <p>4 look to different -- a different market that is</p> <p>5 unaffected by the alleged anticompetitive</p> <p>6 conduct, right?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: If by</p> <p>9 "traditional," you mean at a market level,</p> <p>10 that's a standard approach. But as I</p> <p>11 explained earlier as we were discussing</p> <p>12 this, one could do the analysis at the firm</p> <p>13 level or the market level.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Okay. Did you try to identify a</p> <p>16 different market to serve as a comparable?</p> <p>17 A. I did not give a lot of</p> <p>18 consideration to that. I thought about it, but I</p> <p>19 -- my view is that it would be difficult. And I</p> <p>20 decided to rely on the market -- well, the -- the</p> <p>21 same market and -- on the basis that it would</p> <p>22 produce conservative results, as I explain in my</p>	<p>1 various distinguishing characteristics.</p> <p>2 As I thought about other markets</p> <p>3 that might form the basis for a yardstick</p> <p>4 or a comparables methodology, that thinking</p> <p>5 didn't take me anywhere -- I wasn't able to</p> <p>6 come up with alternatives that I felt would</p> <p>7 be as reliable as the approach I take here.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. And do you set out in your report</p> <p>10 anywhere the steps you went to to attempt to</p> <p>11 identify a comparable market?</p> <p>12 A. No.</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Okay. Now, you also excluded</p> <p>16 impressions that you determined are not in the</p> <p>17 relevant market, correct, from your comparables</p> <p>18 analysis?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: Yes. In</p> <p>21 Appendix C, there's a description about</p> <p>22 what specific kinds of impressions are</p>

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<p style="text-align: right;">Page 234</p> <p>1 included in the analysis. And --</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. In Paragraph 139, you write that</p> <p>4 you exclude impressions that are not in the</p> <p>5 relevant market, including those sold via the</p> <p>6 direct channel, search, social media, instream</p> <p>7 video, in-app and ads served within the walled</p> <p>8 gardens.</p> <p>9 Did you consider whether any of</p> <p>10 those transactions were comparable?</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: In deciding what</p> <p>13 transactions are in the relevant market, I</p> <p>14 adopted Professor Lee's definition of the</p> <p>15 relevant antitrust markets.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Right. But for purposes of coming</p> <p>18 up with a yardstick or comparables approach, you</p> <p>19 acknowledge that under the traditional method,</p> <p>20 you would look at something outside of that</p> <p>21 relevant market that's not affected by the</p> <p>22 anticompetitive conduct, right?</p>	<p style="text-align: right;">Page 236</p> <p>1 tools than the alleged open web display market?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: I don't recall the</p> <p>4 precise distinctions in each case, but, as</p> <p>5 I said, I adopted Professor Lee's</p> <p>6 definition of the relevant market and,</p> <p>7 after giving some consideration to</p> <p>8 alternative approaches, decided to do --</p> <p>9 conduct the comparables analysis in the way</p> <p>10 I did.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. And my question is, Why do you --</p> <p>13 why did you conclude that the types of</p> <p>14 advertising reflected in 139 -- why did you</p> <p>15 conclude that those were not comparable?</p> <p>16 MS. STRICK: Objection: form.</p> <p>17 THE WITNESS: Well, I relied on</p> <p>18 the definition of the relevant antitrust</p> <p>19 market, which is based on -- in part on the</p> <p>20 idea that the ad -- the ads served in the</p> <p>21 open web display market are reasonably</p> <p>22 substitutable for one another.</p>
<p style="text-align: right;">Page 235</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: I think you're the</p> <p>3 one who's characterizing it as the</p> <p>4 traditional yardstick approach. But the</p> <p>5 A-to-A way to perform a yardstick or a</p> <p>6 difference in differences is to identify</p> <p>7 other markets that are comparable.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. And why is it that the market --</p> <p>10 markets in which other advertising formats, such</p> <p>11 as search, social, instream, in-app and walled</p> <p>12 gardens are not comparable?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: It varies from one</p> <p>15 case to the next. But, for instance, with</p> <p>16 walled gardens, the organization of or the</p> <p>17 provision of the tools that are used to</p> <p>18 purchase the ads is very different from the</p> <p>19 open web display market.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. What about for in app? Is that</p> <p>22 very different? Does that use very different</p>	<p style="text-align: right;">Page 237</p> <p>1 And as we discussed earlier,</p> <p>2 these reasonably substitutable types of</p> <p>3 impressions provide good comparables for</p> <p>4 other impressions sold in the same market.</p> <p>5 At the end of the day, I have to</p> <p>6 make some comparison to the prices that AdX</p> <p>7 is charging in the market.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Okay. I'll try asking it a little</p> <p>10 bit differently.</p> <p>11 In Paragraph 52, you say that</p> <p>12 the market -- you say, Thus, in terms of</p> <p>13 comparability, my market is the best possible</p> <p>14 reference market.</p> <p>15 And my question is, What</p> <p>16 analysis, if any, did you do in order to reach a</p> <p>17 conclusion that your reference market was the</p> <p>18 best possible reference market of other potential</p> <p>19 reference markets?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: Paragraph 52?</p> <p>22</p>



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<p style="text-align: right;">Page 238</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Of your rebuttal.</p> <p>3 Let me ask it a different way,</p> <p>4 which is, What work did you do analyzing other</p> <p>5 potential reference markets in order to determine</p> <p>6 that the one you chose is the best?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: What I'm saying in</p> <p>9 Paragraph 52 is that by definition, any</p> <p>10 market is more comparable to itself than to</p> <p>11 any other market. And in that sense, it is</p> <p>12 the best.</p> <p>13 And as I explain in my opening</p> <p>14 report, using that market as the market</p> <p>15 where I source comparable transactions</p> <p>16 leads to a conservative estimate of the</p> <p>17 but-for take rate.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. And some -- the papers that you</p> <p>20 cite in your rebuttal report on Page -- in</p> <p>21 Paragraph -- sorry -- Footnote 75 -- none of</p> <p>22 those papers say that the best possible reference</p>	<p style="text-align: right;">Page 240</p> <p>1 papers; I'm just relying on the simple</p> <p>2 observation that a market is more</p> <p>3 comparable to itself than it is to another</p> <p>4 market.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. When you do an intramarket</p> <p>7 observation, how do you account for the fact that</p> <p>8 there's strategic complementarity, then, among</p> <p>9 those products?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: When I do</p> <p>12 intramarket comparisons, the strategic</p> <p>13 complementarity allows me to opine that the</p> <p>14 comparisons I do lead to a conservative</p> <p>15 result. But I don't explicitly quantify</p> <p>16 the effect of the strategic</p> <p>17 complementarities.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. And -- okay.</p> <p>20 Now, some of the firms in your</p> <p>21 comparables approach have a lower but-for take</p> <p>22 rate -- I'm sorry -- have a lower as-is take rate</p>
<p style="text-align: right;">Page 239</p> <p>1 market is those that include transaction -- that</p> <p>2 -- that the best possible reference market is, in</p> <p>3 fact, the market in which the alleged monopolist</p> <p>4 operates, right?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: I do not know</p> <p>7 everything that is said in these papers.</p> <p>8 It's possible that -- I -- as I</p> <p>9 sit here, I couldn't tell you what kinds of</p> <p>10 discussion is in these papers about using</p> <p>11 the same market as the source of</p> <p>12 comparables except for the material that I</p> <p>13 cite here, where they say that, in some</p> <p>14 cases, it can be done.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And none of the materials that you</p> <p>17 cite there say that it is the best -- that the</p> <p>18 best possible reference market is the same market</p> <p>19 in which the monopolist operates?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: When I call it the</p> <p>22 best possible, I'm not relying on these</p>	<p style="text-align: right;">Page 241</p> <p>1 than Google, correct?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: The -- to start,</p> <p>4 the approach is meant to get at the average</p> <p>5 price across a set of transactions, but</p> <p>6 those transactions' data were provided to</p> <p>7 me at the level of the exchange.</p> <p>8 So I understand you to be</p> <p>9 referring to average take rates of</p> <p>10 exchanges. And, yes, exchanges have lower</p> <p>11 average take rates than AdX.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. And so if a firm -- if any of those</p> <p>14 exchanges is trying to undercut the prices of an</p> <p>15 alleged monopolist, what makes that firm an</p> <p>16 appropriate comparator?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: The -- I'm not sure</p> <p>19 I understand the premise of your question</p> <p>20 about undercutting the prices of the</p> <p>21 alleged monopolist.</p> <p>22</p>

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<p style="text-align: right;">Page 242</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Is it possible that any of the</p> <p>3 exchanges in your comparables approach have a</p> <p>4 lower as-is take rate in order to attempt to</p> <p>5 undercut Google, the alleged monopolist?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: By "undercut," do</p> <p>8 you mean charge a lower price than?</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Yes.</p> <p>11 A. Those exchanges do charge a lower</p> <p>12 price than AdX.</p> <p>13 Q. Right. And so what, by virtue of</p> <p>14 the fact that they charge a lower price, makes</p> <p>15 them an appropriate comparable?</p> <p>16 MS. STRICK: Objection: form.</p> <p>17 THE WITNESS: Their</p> <p>18 appropriateness is not a function of their</p> <p>19 price; their appropriateness is a function</p> <p>20 of the fact that they sell Open web --</p> <p>21 they're -- they sell access to tools,</p> <p>22 exchanges specifically, that are used to</p>	<p style="text-align: right;">Page 244</p> <p>1 THE WITNESS: I believe</p> <p>2 Sharethrough provided incomplete data</p> <p>3 because it couldn't provide data as to</p> <p>4 worldwide transactions. But the U.S.</p> <p>5 transactions data that it provided may have</p> <p>6 had, as far as I can recall, international</p> <p>7 bidders or -- I mean, so there -- there may</p> <p>8 have been an international dimension to</p> <p>9 what they called U.S. impressions or --</p> <p>10 let's go look it up.</p> <p>11 (Whereupon, the witness reviews</p> <p>12 the material provided.)</p> <p>13 THE WITNESS: The key point is</p> <p>14 that the data were incomplete.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Why is the data incomplete, from</p> <p>17 your point of view, if it includes impressions</p> <p>18 facilitated by an exchange that competes on a</p> <p>19 worldwide basis?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: Sorry. I was</p> <p>22 looking for the explanation of why</p>
<p style="text-align: right;">Page 243</p> <p>1 facilitate open web display advertising</p> <p>2 transactions.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay. So one of the set of</p> <p>5 transactions that you excluded from your</p> <p>6 comparables analysis was from Share -- the</p> <p>7 exchange called Sharethrough.</p> <p>8 Do you recall that?</p> <p>9 A. Yes.</p> <p>10 Q. And you say you excluded</p> <p>11 Sharethrough because their data pertained only to</p> <p>12 U.S. impressions?</p> <p>13 A. I believe that's correct.</p> <p>14 Q. Do you know whether Sharethrough</p> <p>15 serves -- facilitates impressions on a worldwide</p> <p>16 basis?</p> <p>17 A. I believe it does.</p> <p>18 Q. And so the -- the U.S. data that</p> <p>19 Sharethrough produced was part of a worldwide set</p> <p>20 of transactions, correct, facilitated by</p> <p>21 Sharethrough?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 245</p> <p>1 Sharethrough -- specifically why</p> <p>2 Sharethrough was excluded. But it's -- I</p> <p>3 believe you're correct that it's on the</p> <p>4 basis of their inability to report</p> <p>5 worldwide transactions.</p> <p>6 So with apologies, would you</p> <p>7 repeat the question?</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. How is it the case that the data</p> <p>10 produced by Sharethrough is incomplete, when the</p> <p>11 data it did produce is a result of transactions</p> <p>12 it facilitates on a worldwide basis?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: The easiest way to</p> <p>15 say it is, exchanges to be included in my</p> <p>16 analysis had to provide complete data, data</p> <p>17 on all of their transactions, and</p> <p>18 Sharethrough could not.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. Is it that Sharethrough could not</p> <p>21 or did not?</p> <p>22 A. You're correct. I can't speak to</p>

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<p style="text-align: right;">Page 246</p> <p>1 what Sharethrough could do, but my understanding</p> <p>2 is that they did not.</p> <p>3 Q. And are you aware that</p> <p>4 Professor Lee estimated Sharethrough's worldwide</p> <p>5 impressions based on its U.S.-only data?</p> <p>6 A. I didn't recall that specifically,</p> <p>7 but I take your word for that.</p> <p>8 Q. Okay. And did you consider whether</p> <p>9 there was any way to look at Sharethrough's data</p> <p>10 to estimate worldwide transactions, impressions?</p> <p>11 A. I don't know specifically what</p> <p>12 analysis Professor Lee did that you were</p> <p>13 referring to --</p> <p>14 Q. I'm asking whether --</p> <p>15 A. -- but it's --</p> <p>16 Q. -- you considered any --</p> <p>17 A. -- it's --</p> <p>18 Q. -- possibility.</p> <p>19 A. -- it's possible to use incomplete</p> <p>20 data for some kinds of analysis when it would be</p> <p>21 appropriate for other kinds of analysis.</p> <p>22 Q. So my question is, Did you consider</p>	<p style="text-align: right;">Page 248</p> <p>1 extrapolate. Those assumptions would have</p> <p>2 gone directly into the estimated but-for</p> <p>3 take rate.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. And you say "the decision was</p> <p>6 made."</p> <p>7 Who made that decision?</p> <p>8 A. I'm responsible for that decision.</p> <p>9 Q. All right. You did not include</p> <p>10 Amazon in your comparables analysis although you</p> <p>11 identify it as an ad exchange.</p> <p>12 Why is it that they were not</p> <p>13 included?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: Amazon -- well,</p> <p>16 there's the Amazon owned-and-operated</p> <p>17 business, which would be outside the</p> <p>18 relevant antitrust market. And my</p> <p>19 understanding is that Amazon is not an</p> <p>20 exchange in the relevant antitrust</p> <p>21 market --</p> <p>22</p>
<p style="text-align: right;">Page 247</p> <p>1 whether there was any way to look at</p> <p>2 Sharethrough's data to estimate worldwide</p> <p>3 impressions for purposes of your comparables</p> <p>4 analysis?</p> <p>5 A. For my analysis, I included</p> <p>6 exchanges that were able to provide complete</p> <p>7 data; and Sharethrough did not.</p> <p>8 Q. Why was it important for you to</p> <p>9 have complete data as opposed to using incomplete</p> <p>10 data from which you could extrapolate for</p> <p>11 purposes of your comparables analysis?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: Extrapolation</p> <p>14 requires making certain assumptions. I</p> <p>15 don't recall specifically what the key</p> <p>16 assumptions were that we were worried about</p> <p>17 with Sharethrough, but the decision was</p> <p>18 made to sort of only calculate average take</p> <p>19 rates over worldwide impressions for</p> <p>20 exchanges that could provide complete data.</p> <p>21 And they couldn't provide complete data.</p> <p>22 So I would have had to make assumptions to</p>	<p style="text-align: right;">Page 249</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay.</p> <p>3 A. -- as defined by Professor Lee.</p> <p>4 Q. And did you consider whether Amazon</p> <p>5 was a comparable firm that's not -- that could be</p> <p>6 used as a comparable using the traditional</p> <p>7 yardstick approach?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: As I explained</p> <p>10 earlier, my analysis is at the transaction</p> <p>11 level, not the firm level.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. But you say you considered using</p> <p>14 firms as a potential comparable but decided not</p> <p>15 to.</p> <p>16 My question is, Did you</p> <p>17 consider Amazon as a potential comparable?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: I don't recall</p> <p>20 saying I thought of using firms as a</p> <p>21 potential comparable.</p> <p>22 I went through the steps</p>

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<p style="text-align: right;">Page 250</p> <p>1 described in my opening report, which</p> <p>2 involve first thinking about comparable</p> <p>3 transactions, which are transactions in the</p> <p>4 open web display market, so I didn't think</p> <p>5 about characteristics of Amazon as a firm</p> <p>6 is relevant to selecting the comparable</p> <p>7 transactions for those open web display</p> <p>8 advertisements.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. In considering an -- a reference</p> <p>11 market that is unaffected by the anticompetitive</p> <p>12 conduct, did you look at Amazon as a potential</p> <p>13 comparable --</p> <p>14 MS. STRICK: Objection --</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. -- as would be suggested under the</p> <p>17 traditional yardstick approach?</p> <p>18 MS. STRICK: -- objection: form.</p> <p>19 THE WITNESS: I feel there are a</p> <p>20 lot of assumptions in your hypothetical</p> <p>21 about what approaches I did and didn't do.</p> <p>22 As I -- as I characterize the</p>	<p style="text-align: right;">Page 252</p> <p>1 Figure 10 on Page 45. And you see that</p> <p>2 Professor Chevalier calculates the as-is take</p> <p>3 rates in this figure of all the exchanges within</p> <p>4 your comparables approach, correct?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: It looks like this</p> <p>7 is an -- a comparison of the average take</p> <p>8 rate by exchange for the exchanges that</p> <p>9 produce usable data that I used in the</p> <p>10 comparables approach.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Okay. And so what permits some of</p> <p>13 these exchanges to charge higher than the average</p> <p>14 revenue share --</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. -- the weighted average RevShare?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: It's a mathematical</p> <p>20 property of an average that some will be</p> <p>21 above and some will be below.</p> <p>22</p>
<p style="text-align: right;">Page 251</p> <p>1 approach I took, I explained why I didn't</p> <p>2 consider Amazon as a firm.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. So let's turn to -- I'm going to</p> <p>5 hand you Professor Chevalier's report --</p> <p>6 MS. GOODMAN: I may have put it</p> <p>7 somewhere else. Yeah.</p> <p>8 (Sotto voce discussion between</p> <p>9 cocounsel.</p> <p>10 MS. GOODMAN: It's okay. It's</p> <p>11 okay.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. -- which is Simcoe Exhibit 3.</p> <p>14 --oOo--</p> <p>15 (Simcoe Deposition Exhibit Number</p> <p>16 3, Expert Report of Judith A.</p> <p>17 Chevalier, marked for</p> <p>18 identification, as of this</p> <p>19 date.)</p> <p>20 --oOo--</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. And I'd like you to turn to</p>	<p style="text-align: right;">Page 253</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And what is it that enables some of</p> <p>3 these exchanges in the market that you're</p> <p>4 considering to charge higher-than-average shares,</p> <p>5 RevShares?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: You're asking me to</p> <p>8 speculate as to the causes of variation in</p> <p>9 the average price across transactions on</p> <p>10 these exchanges. There could be many</p> <p>11 factors, but let me just take Yieldmo.</p> <p>12 My understanding -- I think I'm</p> <p>13 correct in this -- that Yieldmo is a</p> <p>14 exchange that does a fair amount of</p> <p>15 remarketing, which is a particular kind of</p> <p>16 high-priced, specialized transaction, and</p> <p>17 in catering to that part of the market,</p> <p>18 they may face different circumstances that</p> <p>19 allow them to charge a higher take rate.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. And how about for Index Exchange?</p> <p>22 What permits them to charge a higher than</p>

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<p style="text-align: right;">Page 254</p> <p>1 weighted -- higher than the weighted average</p> <p>2 RevShare?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: I don't have any</p> <p>5 particular ideas in mind right now about</p> <p>6 why Index's average take rate is 0.5</p> <p>7 percentage points above the mean, other</p> <p>8 than to say its relationship to the mean is</p> <p>9 a function of every other exchange's take</p> <p>10 rate, which is used to compute the mean.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Is quality a reason that some firms</p> <p>13 can charge higher prices than other firms?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: In economics and in</p> <p>16 differentiated product markets, relative</p> <p>17 quality is almost definitionally something</p> <p>18 that can affect prices.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And are these RevShares</p> <p>21 quality-adjusted?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 256</p> <p>1 speculate. I want to -- my understanding is you</p> <p>2 were basing that off of the evidence that you</p> <p>3 have seen in this case as to why Yieldmo charges</p> <p>4 higher prices. Correct?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: I was referring to</p> <p>7 evidence that I've seen in this case; but</p> <p>8 as I said, I haven't done a specific</p> <p>9 analysis to try and isolate the causes that</p> <p>10 produce the particular variation that we</p> <p>11 see here in Yieldmo's take rate, and that's</p> <p>12 -- that's what I was referring to.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. Okay. Are you attributing -- well,</p> <p>15 never mind.</p> <p>16 In your comparables analysis,</p> <p>17 did you do a quality adjustment to the average</p> <p>18 weighted -- the weighted average that you</p> <p>19 calculated?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: I didn't see that</p> <p>22 adjusting for quality was feasible or</p>
<p style="text-align: right;">Page 255</p> <p>1 THE WITNESS: I'm not sure what</p> <p>2 you have in mind specifically for a quality</p> <p>3 adjustment, but my understanding is that</p> <p>4 these are simply the average prices charged</p> <p>5 for transactions on these exchanges.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. Going back one second to Yieldmo,</p> <p>8 your testimony about why they may be able to</p> <p>9 charge a higher RevShare than other exchanges.</p> <p>10 Is that an example where there</p> <p>11 are differences between exchanges unrelated to</p> <p>12 scale that allows Yieldmo to charge a price</p> <p>13 that's higher than the average?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: Yeah, Yieldmo is a</p> <p>16 very, very small exchange that serves a</p> <p>17 niche. I haven't done an investigation to</p> <p>18 isolate the causes of Yieldmo's pricing.</p> <p>19 But you had asked me to speculate, and so I</p> <p>20 did.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Okay. I don't want you to</p>	<p style="text-align: right;">Page 257</p> <p>1 necessary. So this is a -- in -- in the</p> <p>2 weighted average that I took across all</p> <p>3 transactions in the open web display market</p> <p>4 sold through these exchanges, I calculated</p> <p>5 a weighted average using revenue weights,</p> <p>6 using the straight average take rate, as I</p> <p>7 described in my report.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. And so it's -- I'm correct in</p> <p>10 understanding you did not attempt any quality</p> <p>11 adjustments to the average revenue share which</p> <p>12 you calculated in your comparables approach?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: I did not do any</p> <p>15 adjustments to the weighted average take</p> <p>16 rate other than taking the weighted</p> <p>17 average.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. Okay. And the reasons that you</p> <p>20 identified may be why Yieldmo is able to charge a</p> <p>21 higher price than the weighted average -- could</p> <p>22 Google charge higher prices for the same reasons?</p>

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<p style="text-align: right;">Page 258</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: As I explain in the</p> <p>3 rebuttal report, the analysis that I do</p> <p>4 relies on pooling together all of the</p> <p>5 transactions across all of the exchanges</p> <p>6 that provided usable data. That means that</p> <p>7 there will be a small number of</p> <p>8 transactions from Yieldmo at the Yieldmo</p> <p>9 average take rate and a much larger number</p> <p>10 of transactions from, say, Xandr at the</p> <p>11 Xandr average take rate.</p> <p>12 And in averaging those together,</p> <p>13 I average a variety of different kinds of</p> <p>14 transactions to come up with an average</p> <p>15 take rate for all sorts of different</p> <p>16 transactions on different exchanges, none</p> <p>17 of which engaged in the conduct that is at</p> <p>18 issue in this case.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And as a result, you calculate a</p> <p>21 weighted average of 16.2 percent that you think</p> <p>22 reflects a but-for world where none of the</p>	<p style="text-align: right;">Page 260</p> <p>1 is in the as-is world and is also in the</p> <p>2 but-for world you consider?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: This is a -- an</p> <p>5 estimate of the price that AdX -- it's an</p> <p>6 estimate of the upper bound of the price</p> <p>7 that AdX would be able to charge but for</p> <p>8 the conduct that defines the but-for world.</p> <p>9 I'm not sure that it's necessary</p> <p>10 to apportion, but if you're explicit about</p> <p>11 the other conduct you have in mind, we can</p> <p>12 discuss it.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. Okay. So how have you ruled out in</p> <p>15 the comparables approach any other causes to</p> <p>16 explain why different exchanges charge a lower</p> <p>17 RevShare than the conduct you consider in the</p> <p>18 but-for world?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: Could you repeat</p> <p>21 the question?</p> <p>22</p>
<p style="text-align: right;">Page 259</p> <p>1 anticompetitive conduct took place?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: So the 16.2 percent</p> <p>4 is an estimate of the but-for take rate</p> <p>5 where the but-for world is as described in</p> <p>6 my report.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. And the difference between Google's</p> <p>9 as-is take rate and the weighted average take</p> <p>10 rate which you calculate of 16.2 percent -- is it</p> <p>11 correct your comparables analysis attributes that</p> <p>12 difference exclusively to anticompetitive</p> <p>13 conduct?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: My analysis</p> <p>16 attributes it to the conduct that is</p> <p>17 present in the as-is world and not in the</p> <p>18 but-for world.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. Okay. So how do you separate out</p> <p>21 in your comparables approach what amount of the</p> <p>22 overcharge is due to anticompetitive conduct that</p>	<p style="text-align: right;">Page 261</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. How have you ruled out the</p> <p>3 possibility that there are other causes beyond --</p> <p>4 or other reasons other exchanges -- let me try</p> <p>5 that again.</p> <p>6 Strike that.</p> <p>7 How have you ruled out whatever</p> <p>8 causes other exchanges to charge lower revenue</p> <p>9 shares than Google might also explain why AdX</p> <p>10 charged a revenue share of 19.8 percent?</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: I don't think it's</p> <p>13 necessary to identify causes of variation</p> <p>14 in the average take rate of other exchanges</p> <p>15 to perform the comparables analysis.</p> <p>16 As I mentioned earlier, I view</p> <p>17 the comparables analysis and the event</p> <p>18 study as complementary approaches, and one</p> <p>19 thing that I did in the event study to try</p> <p>20 and deal with unobserved factors that may</p> <p>21 be correlated with differences in average</p> <p>22 take rates is to include the exchange fixed</p>

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<p style="text-align: right;">Page 262</p> <p>1 effects in those regressions.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. Why do you think it is not</p> <p>4 necessary to identify causes of variation in the</p> <p>5 average take rate of other exchanges?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: Because I am using</p> <p>8 transactions in the open web display</p> <p>9 advertising market for a wide range of</p> <p>10 exchanges that cover a variety of different</p> <p>11 kinds of transactions, pooling those</p> <p>12 together and using that as the basis for a</p> <p>13 comparison to transactions on AdX --</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. So --</p> <p>16 A. -- the -- it -- it's both</p> <p>17 difficult, you know, sort of identifying -- you</p> <p>18 know, precisely measuring any one cause is -- is</p> <p>19 very difficult, and I think it's unnecessary.</p> <p>20 I'm simplifying using all of the other</p> <p>21 transactions that I can get in the market to form</p> <p>22 a basis of what a marketwide average competitive</p>	<p style="text-align: right;">Page 264</p> <p>1 THE WITNESS: I have looked at</p> <p>2 the -- the right answer is, It depends what</p> <p>3 you mean.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. So you're saying that your</p> <p>6 comparables approach takes into account the fact</p> <p>7 that the Google-specific conduct didn't occur in</p> <p>8 those comparable ad exchanges, correct?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Correct.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. My question is, Did you actually</p> <p>13 look at each of those ad exchanges to figure out</p> <p>14 whether they have any sort of tie to a buy-side</p> <p>15 tool or a sell-side tool?</p> <p>16 MS. STRICK: Objection: form.</p> <p>17 THE WITNESS: I looked at the</p> <p>18 other exchanges, and I know that the other</p> <p>19 exchanges, some of them, have full-stack</p> <p>20 capabilities, so they have their own tools</p> <p>21 at various layers in the ad tech stack.</p> <p>22 As I sit here, I don't remember</p>
<p style="text-align: right;">Page 263</p> <p>1 take rate would be.</p> <p>2 Q. And some exchanges -- and how does</p> <p>3 your average -- your comparables approach</p> <p>4 actually factor in the but-for conduct which you</p> <p>5 are attempting to measure with it in it?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: It factors it in,</p> <p>8 in that that conduct is Google-specific</p> <p>9 conduct that affects the prices on AdX, but</p> <p>10 that conduct is not present at other firms,</p> <p>11 so the pathway through which that conduct</p> <p>12 could affect prices charged by other</p> <p>13 exchanges is related to the strategic</p> <p>14 complementary that we discussed earlier,</p> <p>15 which leads my analysis to produce</p> <p>16 conservative results.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. Have you studied whether any of the</p> <p>19 ad exchanges that you consider in your</p> <p>20 comparables have any sort of tie to a publisher</p> <p>21 ad server or to a buy-side tool?</p> <p>22 MS. STRICK: Objection: form.</p>	<p style="text-align: right;">Page 265</p> <p>1 the details of -- that would allow me to</p> <p>2 make a determination of whether that was a</p> <p>3 tie. But for these kinds of relationships</p> <p>4 to make a difference, it's also a necessary</p> <p>5 condition that the tying firm possess</p> <p>6 market power in the tying market.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. And that's necessary as a matter of</p> <p>9 economics or a matter of antitrust law?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: Necessary as a</p> <p>12 matter of economics.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. And does your comparables approach</p> <p>15 assume that the average quality of transactions</p> <p>16 on non-AdX exchanges is comparable to the average</p> <p>17 quality of transactions on AdX?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: For purposes of</p> <p>20 this question, we will have to set aside</p> <p>21 scale.</p> <p>22 As I've testified earlier,</p>

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<p style="text-align: right;">Page 266</p> <p>1 perhaps the most important determinant of</p> <p>2 perceived quality in this market is scale.</p> <p>3 And AdX has a scale advantage which is not</p> <p>4 separable from its conduct at issue in the</p> <p>5 case.</p> <p>6 Setting aside scale, I haven't</p> <p>7 seen evidence that there are compelling --</p> <p>8 compelling evidence that there are net</p> <p>9 quality differences across other exchanges.</p> <p>10 This approach treats the full set</p> <p>11 -- the -- the kind of average take rate</p> <p>12 across all competing exchanges as a</p> <p>13 comparable quality benchmark to AdX, and</p> <p>14 that is consistent with finding a very</p> <p>15 similar but-for take rate in the event</p> <p>16 study, where I include the fixed effects to</p> <p>17 control for factors that I can't measure</p> <p>18 that differ between the exchanges.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And it is accurate that you cannot</p> <p>21 measure the differences between exchanges and</p> <p>22 your comparables approach, right?</p>	<p style="text-align: right;">Page 268</p> <p>1 terms of the -- the -- the publisher inventory</p> <p>2 space that is facilitated by that particular</p> <p>3 exchange?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: That's scale, which</p> <p>6 we talked about earlier.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Well, there can be two exchanges of</p> <p>9 same scale that have different quality of</p> <p>10 inventory, correct?</p> <p>11 A. Inventory can be differentiated.</p> <p>12 But as you characterized access to inventory, a</p> <p>13 factor of primary importance is scale, which is</p> <p>14 in many ways strongly correlated with variety.</p> <p>15 Q. Well, my -- my question was: Is</p> <p>16 there a difference in quality of an exchange</p> <p>17 based on the type of inventory that they have?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: To understand if</p> <p>20 the differences in inventory were driving</p> <p>21 hypothetical differences in perceived</p> <p>22 quality, I would have to have data that</p>
<p style="text-align: right;">Page 267</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: You haven't</p> <p>3 provided any examples of the types of</p> <p>4 quality differences that I'm being asked to</p> <p>5 measure in this hypothetical. So I'm</p> <p>6 assuming that they're unobserved. And</p> <p>7 things that are not observable are not</p> <p>8 measurable.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Can your comparables approach</p> <p>11 measure the quality differences in terms of</p> <p>12 preventing fraudulent ad -- Open web</p> <p>13 transactions?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: I do not have data</p> <p>16 on relative differences in -- what did</p> <p>17 you -- you know, fraudulent transaction,</p> <p>18 prevention and -- and detention --</p> <p>19 detection, prevention.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. And can you use your comparables</p> <p>22 approach to measure the differences in quality in</p>	<p style="text-align: right;">Page 269</p> <p>1 allowed me to -- well, I don't have an</p> <p>2 opinion as to that other than that I've</p> <p>3 reviewed information -- qualitative</p> <p>4 information about differences in quality</p> <p>5 and, as I described earlier, came to the</p> <p>6 opinion that scale is the predominant</p> <p>7 factor and that I haven't seen any</p> <p>8 compelling evidence that on net, some</p> <p>9 exchanges are providing a better quality</p> <p>10 exchange than others.</p> <p>11 It seems that some exchanges do</p> <p>12 well in dimensions and some do poorly on</p> <p>13 others, with respect to AdX and with</p> <p>14 respect to the other exchanges.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And so the dimensions that some</p> <p>17 exchanges do well on relative to AdX and that</p> <p>18 other exchanges do poorly on -- does your</p> <p>19 comparables approach reflect any of those</p> <p>20 differences?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22 THE WITNESS: How would -- does</p>

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<p style="text-align: right;">Page 266</p> <p>1 perhaps the most important determinant of</p> <p>2 perceived quality in this market is scale.</p> <p>3 And AdX has a scale advantage which is not</p> <p>4 separable from its conduct at issue in the</p> <p>5 case.</p> <p>6 Setting aside scale, I haven't</p> <p>7 seen evidence that there are compelling --</p> <p>8 compelling evidence that there are net</p> <p>9 quality differences across other exchanges.</p> <p>10 This approach treats the full set</p> <p>11 -- the -- the kind of average take rate</p> <p>12 across all competing exchanges as a</p> <p>13 comparable quality benchmark to AdX, and</p> <p>14 that is consistent with finding a very</p> <p>15 similar but-for take rate in the event</p> <p>16 study, where I include the fixed effects to</p> <p>17 control for factors that I can't measure</p> <p>18 that differ between the exchanges.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And it is accurate that you cannot</p> <p>21 measure the differences between exchanges and</p> <p>22 your comparables approach, right?</p>	<p style="text-align: right;">Page 268</p> <p>1 terms of the -- the -- the publisher inventory</p> <p>2 space that is facilitated by that particular</p> <p>3 exchange?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: That's scale, which</p> <p>6 we talked about earlier.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Well, there can be two exchanges of</p> <p>9 same scale that have different quality of</p> <p>10 inventory, correct?</p> <p>11 A. Inventory can be differentiated.</p> <p>12 But as you characterized access to inventory, a</p> <p>13 factor of primary importance is scale, which is</p> <p>14 in many ways strongly correlated with variety.</p> <p>15 Q. Well, my -- my question was: Is</p> <p>16 there a difference in quality of an exchange</p> <p>17 based on the type of inventory that they have?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: To understand if</p> <p>20 the differences in inventory were driving</p> <p>21 hypothetical differences in perceived</p> <p>22 quality, I would have to have data that</p>
<p style="text-align: right;">Page 267</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: You haven't</p> <p>3 provided any examples of the types of</p> <p>4 quality differences that I'm being asked to</p> <p>5 measure in this hypothetical. So I'm</p> <p>6 assuming that they're unobserved. And</p> <p>7 things that are not observable are not</p> <p>8 measurable.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Can your comparables approach</p> <p>11 measure the quality differences in terms of</p> <p>12 preventing fraudulent ad -- Open web</p> <p>13 transactions?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: I do not have data</p> <p>16 on relative differences in -- what did</p> <p>17 you -- you know, fraudulent transaction,</p> <p>18 prevention and -- and detention --</p> <p>19 detection, prevention.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. And can you use your comparables</p> <p>22 approach to measure the differences in quality in</p>	<p style="text-align: right;">Page 269</p> <p>1 allowed me to -- well, I don't have an</p> <p>2 opinion as to that other than that I've</p> <p>3 reviewed information -- qualitative</p> <p>4 information about differences in quality</p> <p>5 and, as I described earlier, came to the</p> <p>6 opinion that scale is the predominant</p> <p>7 factor and that I haven't seen any</p> <p>8 compelling evidence that on net, some</p> <p>9 exchanges are providing a better quality</p> <p>10 exchange than others.</p> <p>11 It seems that some exchanges do</p> <p>12 well in dimensions and some do poorly on</p> <p>13 others, with respect to AdX and with</p> <p>14 respect to the other exchanges.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And so the dimensions that some</p> <p>17 exchanges do well on relative to AdX and that</p> <p>18 other exchanges do poorly on -- does your</p> <p>19 comparables approach reflect any of those</p> <p>20 differences?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22 THE WITNESS: How would -- does</p>

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<p style="text-align: right;">Page 270</p> <p>1 it reflect them?</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Does it -- does your analysis</p> <p>4 include those differences in coming up with an</p> <p>5 average -- a -- a but-for take rate that you come</p> <p>6 up with as a result of that approach?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: If there are</p> <p>9 differences, as I said, the evidence</p> <p>10 suggests that they're not meaningful and</p> <p>11 they're averaged out when I pool together</p> <p>12 all of the transactions through the non-AdX</p> <p>13 exchanges in calculating a weighted</p> <p>14 average.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And so the firms that charge lower</p> <p>17 prices than Google, as reflected in Chevalier</p> <p>18 Figure 10, I believe, is that at all a reflection</p> <p>19 of the -- that product's quality relative to</p> <p>20 Google's?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22 THE WITNESS: I believe scale,</p>	<p style="text-align: right;">Page 272</p> <p>1 study where I cannot control for unobserved</p> <p>2 dimensions of -- well, unobserved product</p> <p>3 features, it would be normal to go look for</p> <p>4 qualitative evidence that those features</p> <p>5 are important, which is what I did. And I</p> <p>6 didn't find any.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Is it possible that the ad</p> <p>9 exchanges charge lower take rates than Google</p> <p>10 because they perceive that the Google product is</p> <p>11 of a higher quality, setting aside scale?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: I don't think it</p> <p>14 makes sense to set aside scale. The</p> <p>15 qualitative evidence that I see is full of</p> <p>16 suggestions that it's the exclusive access</p> <p>17 to Google Ads' demand that provides the key</p> <p>18 differentiating feature of AdX and that</p> <p>19 relative to that, other differences between</p> <p>20 the exchange products are not particularly</p> <p>21 material.</p> <p>22</p>
<p style="text-align: right;">Page 271</p> <p>1 for sure, is reflected in the differences</p> <p>2 in the average take rates in</p> <p>3 Professor Chevalier's Figure 10.</p> <p>4 I don't see that -- you know, as</p> <p>5 I said, the qualitative evidence that I</p> <p>6 have seen doesn't lead me to suggest that</p> <p>7 these other dimensions of quality in</p> <p>8 your -- in your question, whatever they</p> <p>9 might be, are meaningful drivers of price</p> <p>10 variation at the level of, you know -- so</p> <p>11 what we see between AdX and the pooled</p> <p>12 comparable exchanges.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. And you're relying solely on</p> <p>15 qualitative evidence in rendering an opinion that</p> <p>16 those other dimensions are not meaningful drivers</p> <p>17 of price variation, correct?</p> <p>18 MS. STRICK: Objection --</p> <p>19 objection: form.</p> <p>20 THE WITNESS: Yes, I think that's</p> <p>21 a standard approach that -- in this --</p> <p>22 within this methodology, unlike the event</p>	<p style="text-align: right;">Page 273</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And so what if Google -- if AdX has</p> <p>3 a higher quality in terms of fraud protect --</p> <p>4 fraud -- fraud prevention than the other ad</p> <p>5 exchanges in your analysis, does that mean that</p> <p>6 the average difference in take rate between those</p> <p>7 other exchanges and the AdX take rate may be due</p> <p>8 to AdX's superior fraud prevention?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Do you mean the</p> <p>11 average difference in the take rate on the</p> <p>12 transactions conducted on those other</p> <p>13 exchanges and the average -- and take rate</p> <p>14 on transactions on AdX?</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Yes.</p> <p>17 A. And the question is, If,</p> <p>18 hypothetically, Google had --</p> <p>19 Q. Superior fraud --</p> <p>20 A. -- superior fraud --</p> <p>21 Q. -- prevention methodologies as</p> <p>22 compared to the other exchanges.</p>

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<p style="text-align: right;">Page 282</p> <p>1 engage in similar conduct.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. But my question is about</p> <p>4 19.8 percent, which you calculate in the as-is</p> <p>5 world.</p> <p>6 And I want to know if you can</p> <p>7 attribute any of that 19.8 -- 19.8 percent to</p> <p>8 scale that Google acquired as a result of</p> <p>9 procompetitive conduct or anticompetitive</p> <p>10 conduct.</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: I understand that</p> <p>13 your question is about trying to divide</p> <p>14 scale into parts that are procompetitive</p> <p>15 and anticompetitive and somehow apportion</p> <p>16 the effects.</p> <p>17 I haven't been asked to do an</p> <p>18 analysis and I haven't done an analysis</p> <p>19 that contemplates but-for world with</p> <p>20 differences in Google's scale.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. And so you cannot isolate what part</p>	<p style="text-align: right;">Page 284</p> <p>1 transaction-by-transaction data, correct?</p> <p>2 A. It depends.</p> <p>3 Q. You aggregated the data which you</p> <p>4 saw for purposes of conducting the comparables</p> <p>5 approach, correct?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: The -- not exactly.</p> <p>8 MS. STRICK: Counsel, so we've</p> <p>9 been going over an hour. If we could take</p> <p>10 a short break.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Now, the exchanges which you</p> <p>13 excluded from your comparables -- did you look at</p> <p>14 any of the transaction-level data in those -- for</p> <p>15 those exchanges to see whether they fit your</p> <p>16 criteria for the comparables approach?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: I'm not sure I</p> <p>19 understand the question. I did not look at</p> <p>20 characteristics of exchanges to select the</p> <p>21 comparables.</p> <p>22</p>
<p style="text-align: right;">Page 283</p> <p>1 of the overcharge -- or what part of the</p> <p>2 difference between the average of 16.2, I</p> <p>3 believe, and 19.8 could possibly be attributed to</p> <p>4 scale -- to what I'll call "procompetitive scale"</p> <p>5 as opposed to anticompetitive scale?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: The apportionment</p> <p>8 exercise that you're contemplating in this</p> <p>9 hypothetical analysis isn't something that</p> <p>10 I have seen or attempted to do or</p> <p>11 consistent with my understanding of the</p> <p>12 comparables analysis that I did.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. Okay. So going back to the</p> <p>15 transaction versus exchange terminology, it's</p> <p>16 correct that the data you used in your</p> <p>17 comparables approach is aggregated at the</p> <p>18 exchange level, correct?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: Yes.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. And so it -- you don't see</p>	<p style="text-align: right;">Page 285</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Did you look at the individual</p> <p>3 transactions within data -- within datasets of</p> <p>4 exchanges which you excluded to see if any of</p> <p>5 them -- any of that transaction-level data fit</p> <p>6 the criteria you were seeking to include within</p> <p>7 your comparables analysis?</p> <p>8 A. When I looked at the trans- -- the</p> <p>9 transaction-level data that I have in mind that I</p> <p>10 looked at was primarily provided by Google. I</p> <p>11 can't recall all of the specific numbers of the</p> <p>12 data sets, but I -- I recall looking at</p> <p>13 transaction-level data.</p> <p>14 For other data exchanges, data was</p> <p>15 provided primarily and maybe exclusively on a</p> <p>16 aggregated basis to the month -- well, it depends</p> <p>17 on the exchange -- different levels of</p> <p>18 aggravation.</p> <p>19 Q. And so -- but none of the non-AdX</p> <p>20 exchanges provided you per-transaction-level</p> <p>21 data; is that accurate?</p> <p>22 MS. STRICK: Objection: form.</p>

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<p style="text-align: right;">Page 286</p> <p>1 THE WITNESS: I believe it's</p> <p>2 correct that we do not have</p> <p>3 impression-level data for any of the</p> <p>4 non-Google exchanges.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. And because you didn't have</p> <p>7 impression-level data, you had to compare the</p> <p>8 average take rates across different exchanges,</p> <p>9 correct?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: That's not exactly</p> <p>12 what I did. I did not compare the other</p> <p>13 exchanges on a pairwise basis, as you</p> <p>14 suggest in the question. I pooled the data</p> <p>15 and -- by taking a weighted average.</p> <p>16 MS. STRICK: Mr. Simcoe, we've</p> <p>17 been going over an hour.</p> <p>18 Would you like a break?</p> <p>19 THE WITNESS: May we take a</p> <p>20 break?</p> <p>21 MS. GOODMAN: Sure.</p> <p>22 THE VIDEOGRAPHER: We're going</p>	<p style="text-align: right;">Page 288</p> <p>1 is not part of Figure 10 in coming up with the</p> <p>2 weighted average, right?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: Correct, Google is</p> <p>5 not part of the weighted average in</p> <p>6 Figure 10.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. In six of the seven firms in your</p> <p>9 control group for your comparable study can</p> <p>10 charge -- or do charge a</p> <p>11 higher-than-weighted-average revenue share,</p> <p>12 right?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: I address this</p> <p>15 point in my rebuttal report. As a matter</p> <p>16 of math, any weighted average will have</p> <p>17 some above and some below. And because</p> <p>18 Xandr, in particular, is lower and large,</p> <p>19 it leads to more of those exchanges having</p> <p>20 an above-the-average weighted average take</p> <p>21 rate than below.</p> <p>22</p>
<p style="text-align: right;">Page 287</p> <p>1 off the record at 4:00 p.m.</p> <p>2 --oOo--</p> <p>3 (Whereupon, a recess was taken from</p> <p>4 4:00 p.m. EST to 4:13 p.m. EST.)</p> <p>5 --oOo--</p> <p>6 THE VIDEOGRAPHER: We're now back</p> <p>7 on the record at 4:13 p.m.</p> <p>8 You may proceed.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Professor Simcoe, let's go back to</p> <p>11 Chevalier Figure 10, which is in Exhibit 4. And</p> <p>12 it's on Page 45.</p> <p>13 And this figure shows that six</p> <p>14 out of the seven exchanges in your control group</p> <p>15 can charge a higher-than-average revenue share.</p> <p>16 And that -- that leaves Google</p> <p>17 out of the equation, correct?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: What do you mean by</p> <p>20 it leaves Google out of the equation?</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Google is not -- Google's RevShare</p>	<p style="text-align: right;">Page 289</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And is it your testimony that the</p> <p>3 -- that the only reason some firms can charge</p> <p>4 higher than the weighted average is a matter of</p> <p>5 math?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: You're talking</p> <p>8 about two different kinds of possible</p> <p>9 causes.</p> <p>10 I'm saying it's true as a matter</p> <p>11 of math that averages have the</p> <p>12 characteristics that we're talking about.</p> <p>13 Some will be above, and some will be below.</p> <p>14 If you would like to discuss</p> <p>15 potential causes of variation in price, we</p> <p>16 should talk about what those causes are.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. So what permits these six out of</p> <p>19 seven firms to charge higher than the weighted</p> <p>20 average market price?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22</p>

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<p style="text-align: right;">Page 290</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. What are some of the reasons that</p> <p>3 they can do that?</p> <p>4 A. In my experience, there's always</p> <p>5 some variation within a data set. I haven't done</p> <p>6 a systematic investigation to try and tease out</p> <p>7 various causes as to what explains pairwise</p> <p>8 differences in the take rates charged by</p> <p>9 different -- among the exchanges whose</p> <p>10 transactions I use in the comparable analysis.</p> <p>11 Q. Okay. And let's go to your report,</p> <p>12 Paragraph 141.</p> <p>13 And you say in the last two</p> <p>14 sentences that the data you rely on do not</p> <p>15 provide information about prices or take rates at</p> <p>16 the level of the individual impression. Thus, I</p> <p>17 must compare the average take rates across</p> <p>18 different ad exchanges, as opposed to comparing</p> <p>19 take rates charged for comparable impressions.</p> <p>20 And so -- that's accurate,</p> <p>21 correct?</p> <p>22 A. I think it could be worded better,</p>	<p style="text-align: right;">Page 292</p> <p>1 Figure 15, which I believe is on Page 90.</p> <p>2 Yes.</p> <p>3 This is the results of your</p> <p>4 comparables approach, correct?</p> <p>5 A. Yes.</p> <p>6 Q. And you separated out in -- or</p> <p>7 you -- you break it down in two different ways</p> <p>8 further: one is for all third parties; and then</p> <p>9 one is just for large third parties, correct?</p> <p>10 A. Correct.</p> <p>11 Q. And the large third parties is a</p> <p>12 subset of all third parties, correct?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: Yes.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And you made the selection of large</p> <p>17 third parties based on the exchange, correct?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: This was one way to</p> <p>20 illustrate robustness of the primary all</p> <p>21 third-parties numbers. But it's correct</p> <p>22 that large third parties are large relative</p>
<p style="text-align: right;">Page 291</p> <p>1 to be honest. But what I mean to say here is</p> <p>2 that -- well, I mean to be indicating something</p> <p>3 that we discussed before. Because the data are</p> <p>4 provided at an aggregate level, I'm not able to</p> <p>5 do the analysis at the impression level.</p> <p>6 And I use the weighted average of</p> <p>7 the aggregated data to perform a calculation that</p> <p>8 will give the same results as if I averaged over</p> <p>9 all the impressions.</p> <p>10 Q. And when you say "impression," is</p> <p>11 that synonymous with transaction?</p> <p>12 A. Well, there's two transactions</p> <p>13 taking place with an impression, at least. You</p> <p>14 know, one, the transaction where a take rate is</p> <p>15 charged for use of the tool. That's the average</p> <p>16 that I'm calculating. And then there's a</p> <p>17 transaction between a buyer and a seller of the</p> <p>18 open web display impression.</p> <p>19 But, yes, you can think of that as</p> <p>20 the relative unit of analysis that I'm talking</p> <p>21 about.</p> <p>22 Q. And then let's look at your</p>	<p style="text-align: right;">Page 293</p> <p>1 to the two exchanges that are not there in</p> <p>2 the calculation in Row 3.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. And so do these two different</p> <p>5 calculations, large third parties as compared to</p> <p>6 all third parties, show that the but-for take</p> <p>7 rate you hypothesize may depend on the selection</p> <p>8 of exchanges in your control group?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: In performing</p> <p>11 comparables analyses in other contexts,</p> <p>12 it's been my experience that there's always</p> <p>13 some dispute over the selection of the</p> <p>14 comparables. And so it's useful to show</p> <p>15 robustness to alternative sets of</p> <p>16 assumptions --</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. And so is it your testimony that</p> <p>19 the --</p> <p>20 A. -- and so what I sought to do here</p> <p>21 was to illustrate what happens if you remove</p> <p>22 exchanges that are different along salient</p>

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<p style="text-align: right;">Page 294</p> <p>1 dimensions that I could observe, one of which is</p> <p>2 the size of the exchange.</p> <p>3 Q. And so is it your testimony that</p> <p>4 the large third party's metric you report here in</p> <p>5 Figure 15 is a robustness check only?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: It was performed as</p> <p>8 a check of the robustness of my baseline</p> <p>9 analysis, which is in Line 2 of this</p> <p>10 figure.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Okay. And you contend that this</p> <p>13 comparables approach is conservative because of</p> <p>14 the concept of strategic complements, correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I believe that</p> <p>17 because of strategic complementarities,</p> <p>18 Google's as-is take rate encourages all the</p> <p>19 third-party exchanges to set a higher take</p> <p>20 rate than they would in a but-for world</p> <p>21 where Google's take rate was lower.</p> <p>22 Earlier, you pointed to concerns</p>	<p style="text-align: right;">Page 296</p> <p>1 different from the idea of strategic</p> <p>2 substitutes --</p> <p>3 Q. Yes.</p> <p>4 A. -- having said that --</p> <p>5 Q. Are ad --</p> <p>6 A. -- yes.</p> <p>7 Q. Okay. So ad buying tools and</p> <p>8 exchanges are complements, but they're not</p> <p>9 strategic complements?</p> <p>10 A. Correct.</p> <p>11 Q. Okay. Are ad buying tools and</p> <p>12 exchanges strategic substitutes?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: Not necessarily.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Have you come across in the -- in</p> <p>17 the economics literature the hypothetical example</p> <p>18 of strategic substitutes of peanut butter and</p> <p>19 jelly?</p> <p>20 A. No, I can't --</p> <p>21 Q. No?</p> <p>22 A. -- say I have.</p>
<p style="text-align: right;">Page 295</p> <p>1 about the idea that Google's conduct could</p> <p>2 affect the take rates charged by the</p> <p>3 third-party exchanges, and strategic</p> <p>4 complementarities provides an economic --</p> <p>5 standard economic rationale for thinking</p> <p>6 that those effects would lead my results to</p> <p>7 be conservative.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Okay. And you've also heard of the</p> <p>10 concept in economics of strategic substitutes,</p> <p>11 correct?</p> <p>12 A. Yes.</p> <p>13 Q. And the -- are ad buying tools</p> <p>14 complements to exchanges -- ad exchanges?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: Before we get too</p> <p>17 far, let me clarify that the -- the idea of</p> <p>18 complements is different from the idea of</p> <p>19 strategic complements --</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Yes.</p> <p>22 A. -- and the idea of substitutes is</p>	<p style="text-align: right;">Page 297</p> <p>1 Q. Okay. You understand the strategic</p> <p>2 substitute concept applying to peanut butter and</p> <p>3 jelly, that if the price of peanut butter goes up</p> <p>4 -- I'm sorry -- goes -- goes in one direction,</p> <p>5 the price of jelly could go in the other</p> <p>6 direction?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: I think I</p> <p>9 understand what you're talking about. But</p> <p>10 I haven't seen the peanut butter and jelly</p> <p>11 example before.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. Okay. Applying the concept of</p> <p>14 strategic substitutes to peanut butter and jelly,</p> <p>15 does that make sense, to you, that if the price</p> <p>16 of peanut butter goes up or down, the price of</p> <p>17 jelly moves in the opposite direction?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: I mean, the</p> <p>20 definition of "strategic substitutes" is</p> <p>21 that the best-response function of one firm</p> <p>22 is negatively sloped as opposed to</p>

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<p>1 positively sloped.</p> <p>2 The standard example is what's</p> <p>3 called Cournot competition, as opposed to</p> <p>4 Bertrand competition, which is the type of</p> <p>5 competition that I discuss in my report</p> <p>6 leading to the take rates being strategic</p> <p>7 complements.</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. So in the same way that you claim</p> <p>10 the price of competing exchanges are strategic</p> <p>11 complements, does economic theory support the</p> <p>12 idea that prices of complements, like exchanges</p> <p>13 in ad buying tools, are strategic substitutes?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: It's possible.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. And did you consider that at all in</p> <p>18 your analysis in this case?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: In my rebuttal</p> <p>21 report, I explain why the example that you</p> <p>22 provided of changes in prices of ad buying</p>	<p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: In your</p> <p>3 hypothetical, is there market power in the</p> <p>4 ad buying tool market?</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. I'm asking you a question. This is</p> <p>7 not my deposition -- you're not deposing me.</p> <p>8 A. Sorry.</p> <p>9 Q. My --</p> <p>10 A. It depends.</p> <p>11 Q. Okay. And you recognize that the</p> <p>12 Government alleges Google has market power in the</p> <p>13 ad buying tool market?</p> <p>14 A. Yes.</p> <p>15 Q. Okay. Now, did you attempt to</p> <p>16 calculate how much -- how much higher Google's</p> <p>17 rivals' prices are in the as-is world based on</p> <p>18 this principle of strategic complementarity?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: No.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. And so you don't know what the</p>
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<p>1 tools is something that I hold fixed in</p> <p>2 contemplating the -- in defining the</p> <p>3 but-for world.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. So is it accurate that you did not</p> <p>6 consider in your analysis whether economic theory</p> <p>7 supports the idea that prices of complements like</p> <p>8 exchanges and ad buying tools are strategic</p> <p>9 substitutes?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: I did consider the</p> <p>12 complementarity between ad buying tools and</p> <p>13 exchanges, but for reasons explained in my</p> <p>14 rebuttal report, when I'm holding fixed the</p> <p>15 prices charged by the ad buying tools, it's</p> <p>16 not necessary to consider best-response</p> <p>17 functions as between those two products.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. But you agree that the price of ad</p> <p>20 buying tools could change if the price of ad</p> <p>21 exchange -- ad exchanges changes, correct, given</p> <p>22 that they're complements?</p>	<p>1 price -- what the -- what particular RevShare</p> <p>2 another exchange would charge in the</p> <p>3 but-for world, right?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: When we discussed</p> <p>6 the same concept earlier today, I explained</p> <p>7 it's standard in economics to use economic</p> <p>8 models to think about the direction of an</p> <p>9 effect without measuring it. And so, as I</p> <p>10 explain in my report, strategic</p> <p>11 complementarities provides a basis for the</p> <p>12 conclusion that my estimates are</p> <p>13 conservative, but it doesn't lead me to</p> <p>14 quantify changes in the as-is take rates of</p> <p>15 other exchanges.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. And is there anything in your</p> <p>18 comparables approach that would lead you to</p> <p>19 conclude that the but-for world means the but-for</p> <p>20 price is -- everything goes to the average,</p> <p>21 meaning that the but-for price is the weighted</p> <p>22 average?</p>

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<p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: Could you repeat</p> <p>3 that question?</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Is there any analysis you did for</p> <p>6 your comparables approach that would lead to the</p> <p>7 conclusion that the but-for world would mean</p> <p>8 Google's but-for price would, in fact, go to</p> <p>9 16.2 percent?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: I'm still -- so in</p> <p>12 my report, I explain why the conduct that</p> <p>13 is removed in the but-for world supports</p> <p>14 Google's as-is prices so that removing that</p> <p>15 conduct would lead to increased competition</p> <p>16 and lower take rates in the relevant</p> <p>17 antitrust market.</p> <p>18 And the basis of the comparables</p> <p>19 approach is that one can use an average of</p> <p>20 prices in transactions that are comparable,</p> <p>21 except for the market power and the</p> <p>22 conduct, as a benchmark -- or a yardstick,</p>	<p>1 yardstick that I use is the average price</p> <p>2 across all the transactions on all of the</p> <p>3 exchanges in the same market that provided</p> <p>4 usable data. I think of it as a relatively</p> <p>5 standard thing to do.</p> <p>6 The question is whether -- you</p> <p>7 know, I sort of lost track of the question.</p> <p>8 But it's a standard application and, as I</p> <p>9 said, I have reasons to think that the</p> <p>10 results it produces are conservative based</p> <p>11 on the concept of strategic</p> <p>12 complementarity. And as I explained in the</p> <p>13 rebuttal, what I'm doing is not based on</p> <p>14 pairwise comparisons of the exchanges in</p> <p>15 the data.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. So is it your testimony it's</p> <p>18 inappropriate to compare Google to any one</p> <p>19 individual exchange?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: My opinion is that</p> <p>22 in conducting this analysis, after you --</p>
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<p>1 I should say, for what the -- for what AdX</p> <p>2 would charge but for the conduct that</p> <p>3 defines a but-for world.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. And in the but-for world that</p> <p>6 you're hypothesizing here, there are six out of</p> <p>7 seven firms which charge higher than the average</p> <p>8 take rate, correct?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: The weighted</p> <p>11 average take rate is below the average take</p> <p>12 rate for, yes, six of the exchanges that</p> <p>13 provided usable data.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. And so do you have any reason to</p> <p>16 conclude that Google could not charge one of</p> <p>17 those higher average take -- higher-than-average</p> <p>18 take rates in the but-for world?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: I explained that</p> <p>21 the comparables approach is done at the</p> <p>22 level of the transactions, and so the</p>	<p>1 you know, in going through the five steps</p> <p>2 that I outline for performing a comparables</p> <p>3 analysis --</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Well, I --</p> <p>6 A. -- you start by identifying the</p> <p>7 comparable transactions.</p> <p>8 Q. -- sir, I'm not asking you to walk</p> <p>9 me through your methodology again.</p> <p>10 A. Okay.</p> <p>11 Q. My question is simply, Is it</p> <p>12 appropriate as part of your methodology to</p> <p>13 compare Google to any one of the other individual</p> <p>14 competing exchanges in the comparables approach?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: It's more</p> <p>17 appropriate to pool the data that's</p> <p>18 available on comparable transactions and</p> <p>19 rely on the weighted average than to do any</p> <p>20 pairwise comparisons. That's why I</p> <p>21 proceeded that way.</p> <p>22</p>



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<p style="text-align: right;">Page 306</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. Is it inappropriate, then,</p> <p>3 to compare Google to any one of the other</p> <p>4 individual exchanges in the comparables approach?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: I would have to</p> <p>7 consider it.</p> <p>8 In other applications, I have</p> <p>9 seen comparables selected in different</p> <p>10 ways. But here, my view is that the most</p> <p>11 reliable way to proceed is to pool all of</p> <p>12 the transactions in the relevant market and</p> <p>13 use a weighted average.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. And to be clear, you didn't have</p> <p>16 actual transaction-level data to pool, correct?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: My report explains</p> <p>19 how the weighted average that I take</p> <p>20 produces the exact same average as I --</p> <p>21 would be produced if I had impression-level</p> <p>22 data to calculate that average.</p>	<p style="text-align: right;">Page 308</p> <p>1 event study, right?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: Yes, the event</p> <p>4 study contained -- I selected a time period</p> <p>5 that runs from one year prior to UPR to, I</p> <p>6 think, two years after, although I looked</p> <p>7 at different-sized event windows as a way</p> <p>8 of checking the robustness of the</p> <p>9 conclusions.</p> <p>10 BY MS. GOODMAN:</p> <p>11 Q. And the event window which you</p> <p>12 selected centered around the date that you</p> <p>13 determined -- or you found UPR to start in</p> <p>14 September of 2019, correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: Not centered, no.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. It's not equidistant on both sides.</p> <p>19 I recognize that. But you used that</p> <p>20 September 2019 date to set the before-and-after</p> <p>21 windows, correct?</p> <p>22 MS. STRICK: Objection: form.</p>
<p style="text-align: right;">Page 307</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. And you used sets of exchange-level</p> <p>3 data to do your comparables approach?</p> <p>4 A. That's correct. I used data from</p> <p>5 exchanges that was produced at a level of</p> <p>6 aggregation higher than the impression.</p> <p>7 Q. Okay. So UPR, unified pricing</p> <p>8 rules -- you understand that under UPR,</p> <p>9 publishers can set different price floors on</p> <p>10 parameters, such as CPM type of ad, ad size,</p> <p>11 creative types or devices?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: I haven't looked</p> <p>14 specifically at all of those parameters;</p> <p>15 but, yes, I understand that publishers have</p> <p>16 the ability to set floors in a variety of</p> <p>17 ways, just not differentially across ad</p> <p>18 exchanges.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. Okay. And your report states that</p> <p>21 Google introduced UPR in September of 2019 and</p> <p>22 that's why you selected that time period for your</p>	<p style="text-align: right;">Page 309</p> <p>1 THE WITNESS: UPR implementation</p> <p>2 has to fall within the event window. Yes.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay. And you -- did you consider</p> <p>5 at all the fact that Google first launched UPR in</p> <p>6 beta in May of 2019 --</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: I --</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. -- in -- in designing your event</p> <p>11 study?</p> <p>12 A. -- I recall seeing some timing of</p> <p>13 beta. But one would normally use the full</p> <p>14 implementation as the date.</p> <p>15 Q. Why do you say that One would</p> <p>16 normally use the full implementation of the date?</p> <p>17 A. I guess my understanding -- well,</p> <p>18 let me -- let me go back.</p> <p>19 In the event study, I include some</p> <p>20 coefficients for a short-run effect and a long</p> <p>21 run effect. So it's possible to imagine changes</p> <p>22 over time in the effect of an event. And I</p>

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<p>1 Google, and that is what is done with the</p> <p>2 alpha and the rho coefficients.</p> <p>3 There is no effect of UPR on</p> <p>4 rival exchanges excluding Google in the</p> <p>5 model because it's not something that you</p> <p>6 would do in this kind of a model.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. So -- okay. Let's assume in my</p> <p>9 hypothetical, output increases by 100, and let's</p> <p>10 assume that all 100 of those impressions go to</p> <p>11 AdX.</p> <p>12 Would your model show you that</p> <p>13 AdX's impressions increased over its rivals by</p> <p>14 100?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I believe the</p> <p>17 predicted quantities would match up with</p> <p>18 the data. So yes.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. Okay. And that's the -- in the</p> <p>21 same way that if output remains equal or remains</p> <p>22 the same and simply Google takes 50 from its</p>	<p>1 is, I think, what you're describing in your</p> <p>2 hypothetical.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. And in a scenario where the</p> <p>5 market -- where output increases by 100</p> <p>6 impressions, does your model -- can your model</p> <p>7 predict or show whether all of those increased</p> <p>8 100 impressions went to AdX?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Can my model show</p> <p>11 whether all impressions -- so in your</p> <p>12 hypothetical now, there's a change over</p> <p>13 time in the number of impressions as well</p> <p>14 as a change in the share of impressions won</p> <p>15 by each exchange; is that correct?</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Was a change in the -- yes --</p> <p>18 percentagewise, yes.</p> <p>19 So in a world where output</p> <p>20 increases by 100 and all 100 -- well, if -- in --</p> <p>21 let's assume -- let me start over.</p> <p>22 Output increases marketwide by 100</p>
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<p>1 rivals.</p> <p>2 In that scenario, your model</p> <p>3 would also show that AdX's impressions increased</p> <p>4 over its rivals by 100?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: It is -- alpha and</p> <p>7 rho here do measure changes in relative</p> <p>8 impressions, yes.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. So in both of those hypotheticals</p> <p>11 that I gave you where, in one, output stays the</p> <p>12 same and, in another, output increases, your</p> <p>13 model would show the same net increase for Google</p> <p>14 over its rivals; is that accurate?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I think that's</p> <p>17 accurate. As I said, the -- the time-fixed</p> <p>18 effects control for time trends, factors</p> <p>19 that affect output overall, and the alpha</p> <p>20 and the rho coefficients measure relative</p> <p>21 changes; so changes in Google's impressions</p> <p>22 won relative to the other exchanges, which</p>	<p>1 impressions.</p> <p>2 Can your model show whether all 100</p> <p>3 went to AdX or if there was any split between AdX</p> <p>4 and competing exchanges in the winning of those</p> <p>5 impressions?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: In -- in the</p> <p>8 example, there's an overall market growth</p> <p>9 of 100 impressions.</p> <p>10 Did you say in the example what</p> <p>11 happens to the relative shares of</p> <p>12 impressions?</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. No. I simply want to know if your</p> <p>15 model would predict the relative -- how much of</p> <p>16 that 100 goes to Google versus an -- a competing</p> <p>17 exchange.</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: I believe it</p> <p>20 depends on the changes in the relative</p> <p>21 number of impressions, which you haven't</p> <p>22 specified in the hypothetical yet.</p>

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<p style="text-align: right;">Page 338</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Well, I'm saying it goes up by 100.</p> <p>3 A. There's two things here, right?</p> <p>4 There's the total number of impressions, and</p> <p>5 there's the distribution of impressions across</p> <p>6 exchanges.</p> <p>7 And so far, I've heard you say the</p> <p>8 total number of impressions increases by 100.</p> <p>9 And I apologize if I'm slow. I simply haven't</p> <p>10 heard you say what happens to the relative shares</p> <p>11 of impressions.</p> <p>12 Q. So in a world where -- where all</p> <p>13 100 go to Google, does your model show that AdX</p> <p>14 took those impressions from rival exchanges?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I see.</p> <p>17 The model -- so what happens in</p> <p>18 the -- the -- the model is that there is a</p> <p>19 distribution of impressions across</p> <p>20 exchanges that is identified by the pre-UPR</p> <p>21 time period. And the assumption of the</p> <p>22 model is that that distribution of</p>	<p style="text-align: right;">Page 340</p> <p>1 break?</p> <p>2 THE VIDEOGRAPHER: What's the</p> <p>3 matter?</p> <p>4 MS. CLEMONS: The folks on Zoom</p> <p>5 are saying they can't hear.</p> <p>6 THE WITNESS: Did this guy</p> <p>7 (indicating) run out of battery?</p> <p>8 MS. GOODMAN: Well, let's take a</p> <p>9 break, because it's my record and my time.</p> <p>10 THE VIDEOGRAPHER: We're going</p> <p>11 off the record at 5:11 p.m.</p> <p>12 --oOo--</p> <p>13 (Whereupon, a recess was taken from</p> <p>14 5:11 p.m. EST to 5:22 p.m. EST.)</p> <p>15 --oOo--</p> <p>16 THE VIDEOGRAPHER: We're now back</p> <p>17 on the record at 5:22 p.m.</p> <p>18 You may proceed.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. So you acknowledge that the</p> <p>21 introduction of UPR was accompanied by a move to</p> <p>22 the first-price auction, correct?</p>
<p style="text-align: right;">Page 339</p> <p>1 impression across exchanges would be</p> <p>2 consistent over time in the post-UPR time</p> <p>3 period.</p> <p>4 In your hypothetical, if Google</p> <p>5 wins all of the post-UPR impressions,</p> <p>6 that's inconsistent with what the data is</p> <p>7 telling us from the pre-UPR time period.</p> <p>8 And so the -- the difference in the</p> <p>9 distribution of impressions post-UPR</p> <p>10 compared to pre-UPR is attributed to</p> <p>11 Google's conduct, all 100.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. And what about where there's a</p> <p>14 total output increase of 100, and 80 go to AdX</p> <p>15 and 20 go to competing exchanges? Would your</p> <p>16 model similarly attribute that as evidence that</p> <p>17 AdX took impressions from rival exchanges?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 MS. CLEMONS: We're getting</p> <p>20 reports that there's audio issues on the</p> <p>21 Zoom.</p> <p>22 MS. GOODMAN: Okay. Shall we</p>	<p style="text-align: right;">Page 341</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: Yes.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. And you say that the introduction</p> <p>5 of UFPA would not have had an effect on your</p> <p>6 event study; is that -- am I understanding your</p> <p>7 opinion correctly?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: What my opening</p> <p>10 report says is that you can think of three</p> <p>11 things happening: the transition to UFPA,</p> <p>12 which necessitates the removal of last look</p> <p>13 and UPR; that the removal of last look,</p> <p>14 based on the evidence I've seen, would have</p> <p>15 made the event study results conservative;</p> <p>16 and the baseline economic view of a</p> <p>17 transition from a second-price to a</p> <p>18 first-price auction would be neutral.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. And did you do any empirical</p> <p>21 analysis to figure out whether UFPA makes the</p> <p>22 event study results conservative?</p>

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<p style="text-align: right;">Page 342</p> <p>1 MS. STRICK: Objection: form.</p> <p>2 THE WITNESS: I was not able to,</p> <p>3 but I looked at experiments conducted by</p> <p>4 Google that provided results that are</p> <p>5 consistent with that view.</p> <p>6 BY MS. GOODMAN:</p> <p>7 Q. Okay. And does your event study</p> <p>8 control for any increase in -- increase in</p> <p>9 impressions earned by AdX being due to UFPA?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: The regression --</p> <p>12 no. It does what I explained a moment ago.</p> <p>13 The evidence I've seen suggests that UFPA</p> <p>14 is neutral except for the removal of the</p> <p>15 last look, which makes the results</p> <p>16 conservative.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. But it doesn't control for any</p> <p>19 increase in impressions due to UFPA; is that</p> <p>20 accurate?</p> <p>21 MS. STRICK: Objection: form.</p> <p>22 THE WITNESS: In the sense of</p>	<p style="text-align: right;">Page 344</p> <p>1 redistribution --</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. -- of AdX impressions -- of web</p> <p>5 display impressions?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: My model controls</p> <p>8 for factors that lead to expansion in the</p> <p>9 size of the market through the monthly</p> <p>10 fixed effects. The key param- -- the event</p> <p>11 study parameters, alpha and rho, measure</p> <p>12 redistribution of impressions following UPR</p> <p>13 implementation relative to the</p> <p>14 before-UPR-implementation time period.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. And that parameter does not measure</p> <p>17 -- does not include redistribution of impressions</p> <p>18 following UFPA; is that accurate?</p> <p>19 MS. STRICK: Objection: form.</p> <p>20 THE WITNESS: For the reasons we</p> <p>21 just discussed, the results are</p> <p>22 conservative in the sense that the Google</p>
<p style="text-align: right;">Page 343</p> <p>1 including a variable that somehow captures</p> <p>2 the effect of U- -- UFPA in the regression,</p> <p>3 it does not.</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Okay. And is it accurate that your</p> <p>6 model -- your event study model measures only</p> <p>7 average differences in -- in terms of a percent</p> <p>8 change of impressions by AdX and competitors?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: What -- what is</p> <p>11 "only"? I mean, what -- I don't</p> <p>12 understand.</p> <p>13 Only relative to what?</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. The -- there's only one measurement</p> <p>16 which comes out of your regression; is that</p> <p>17 accurate?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: No.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Okay. And so can your model</p> <p>22 disentangle output expansion from a</p>	<p style="text-align: right;">Page 345</p> <p>1 experiments I looked at suggests that the</p> <p>2 key factors in UFPA and removal of last</p> <p>3 look led to a decline in the number of</p> <p>4 impressions won by Google.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. And so the answer to my question is</p> <p>7 no; is that -- is that right --</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. -- that your event study parameters</p> <p>11 do not measure the redistribution of impressions</p> <p>12 following UFPA?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: I don't think</p> <p>15 that's -- I'm not sure what you read back</p> <p>16 from, but I don't think that that's the</p> <p>17 same answer.</p> <p>18 It's correct that there's no</p> <p>19 parameter in this regression corresponding</p> <p>20 to UFPA, but for the reasons I explained,</p> <p>21 that makes, you know, sort of the effects</p> <p>22 that I'm measuring here are conservative</p>

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<p>1 relative to doing so.</p> <p>2 BY MS. GOODMAN:</p> <p>3 Q. Okay. I'm handing you</p> <p>4 Simcoe Exhibit 6.</p> <p>5 --oOo--</p> <p>6 (Simcoe Deposition Exhibit Number</p> <p>7 6, Empirical Etiquette, marked</p> <p>8 for identification, as of this</p> <p>9 date.)</p> <p>10 --oOo--</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. And I'll ask you if you recognize</p> <p>13 this as your empirical etiquette, which you have</p> <p>14 put on your website.</p> <p>15 (Whereupon, the witness reviews</p> <p>16 the material provided.)</p> <p>17 THE WITNESS: Yes.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. And did you discuss in the -- in</p> <p>20 your event study section of your report what you</p> <p>21 saw as the primary threat to causal inference --</p> <p>22 MS. STRICK: Objection --</p>	<p>1 etiquette when conducting your report in this</p> <p>2 case -- or constructing your models and writing</p> <p>3 your report in this case?</p> <p>4 MS. STRICK: Objection: form.</p> <p>5 THE WITNESS: The etiquette rules</p> <p>6 here are meant to provide guidance for</p> <p>7 Ph.D. students who are getting started on</p> <p>8 writing academic papers. But, in general,</p> <p>9 I try to follow the rules of etiquette in</p> <p>10 all of the empirical research I do.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. And so it's your testimony that</p> <p>13 your empirical rules of etiquette should apply to</p> <p>14 your analysis in a litigation, correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: It depends.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. What does it depend on?</p> <p>19 A. Well, it depends on what's being</p> <p>20 done in the litigation, and it depends on the</p> <p>21 type of analysis. As the etiquette rules here</p> <p>22 show, there's different things one ought to do</p>
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<p>1 BY MS. GOODMAN:</p> <p>2 Q. -- as reflected in your General</p> <p>3 Etiquette Number 3 on Page 1 of Exhibit 6?</p> <p>4 MS. STRICK: -- objection: form.</p> <p>5 THE WITNESS: Yes.</p> <p>6 (Sotto voce discussion between</p> <p>7 cocounsel.)</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. And where is that in your report</p> <p>10 where you discuss the primary threat, that causal</p> <p>11 inference on the event study model?</p> <p>12 A. I don't, in my report, call it the</p> <p>13 "primary threat to causal inference," but what I</p> <p>14 discuss are differences across exchanges that</p> <p>15 could be correlated with differences in take</p> <p>16 rates which are controlled for by exchange fixed</p> <p>17 effects and the fact that UPR is implemented at</p> <p>18 the same point in time as UFPA and the removal of</p> <p>19 last look. And I discuss how the threat to</p> <p>20 causal inference there leads me to estimate a</p> <p>21 conservative effect of UPR.</p> <p>22 Q. And did you consider your rules of</p>	<p>1 when reporting results depending on the kinds of</p> <p>2 analysis that's performed.</p> <p>3 Q. Okay. Did you -- do your empirical</p> <p>4 -- your rules of empirical etiquette apply to</p> <p>5 your analysis in this litigation?</p> <p>6 MS. STRICK: Objection: form.</p> <p>7 THE WITNESS: In doing this</p> <p>8 litigation, I didn't go back and consult my</p> <p>9 own list but, as I testified, I try to</p> <p>10 follow good practice for reporting</p> <p>11 empirical results both in my academic work</p> <p>12 and when I do analysis in a litigation</p> <p>13 context.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Okay. And so one of your best</p> <p>16 practices for a diff-in-diffs and panel data --</p> <p>17 let's turn to Page 2 of Exhibit 6 under</p> <p>18 diff-in-diffs and Panel Data. Number 2, Check</p> <p>19 the maintained a sub -- assumption on</p> <p>20 pre-/post-treatment data. Sometimes this is</p> <p>21 called pretrends test.</p> <p>22 Did you check whether</p>

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<p style="text-align: right;">Page 366</p> <p>1 would be captured by the error term in the</p> <p>2 regression -- the event study regression model,</p> <p>3 if that's what we're talking about.</p> <p>4 Q. Well, I'm asking what you're</p> <p>5 talking about in your footnote.</p> <p>6 What idiosyncratic factors are</p> <p>7 you talking about which are not material to</p> <p>8 understanding the overall difference between</p> <p>9 Google's as-is and but-for take rates?</p> <p>10 MS. STRICK: Objection: form.</p> <p>11 THE WITNESS: Well, this</p> <p>12 footnote is in the section of my report</p> <p>13 that addresses the comparables approach, so</p> <p>14 it seems we've moved from discussing the</p> <p>15 event study to the comparables approach. I</p> <p>16 think -- well, let me see.</p> <p>17 (Whereupon, the witness reviews</p> <p>18 the material provided.)</p> <p>19 THE WITNESS: Footnote 242 just</p> <p>20 refers to the idea that there are short-run</p> <p>21 variations -- I think I'm referring to the</p> <p>22 ones that you see in Figure 14 -- that</p>	<p style="text-align: right;">Page 368</p> <p>1 regression economic model, there is</p> <p>2 unobserved variability. It's accounted for</p> <p>3 by including an error term or residual in</p> <p>4 the model, and that's what I did.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. Do the exchange-specific linear</p> <p>7 trends that you talk about in your rebuttal</p> <p>8 report -- report account for any short-run</p> <p>9 fluctuations or idiosyncratic factors that could</p> <p>10 -- that you observed in the exchange-level data</p> <p>11 upon which your event study is based?</p> <p>12 MS. STRICK: Objection: form.</p> <p>13 THE WITNESS: They do in the</p> <p>14 following sense: Without the trends, there</p> <p>15 are -- there will be more idiosyncratic</p> <p>16 fluctuations. Those fluctuations will be</p> <p>17 in the residual.</p> <p>18 By including the trends, I</p> <p>19 explain more of the overall variability in</p> <p>20 the data, making the residual smaller and,</p> <p>21 in that sense, explaining the idiosyncratic</p> <p>22 variations.</p>
<p style="text-align: right;">Page 367</p> <p>1 deviate from long-run trends and that my</p> <p>2 interest is in the long-run -- well, the</p> <p>3 long-run difference in levels between AdX</p> <p>4 and all of the other exchanges.</p> <p>5 And I think I also discuss a bit</p> <p>6 the long-run downward trend in the weighted</p> <p>7 average take rate of all of the non-AdX's</p> <p>8 exchanges. And so for the purposes of that</p> <p>9 discussion, I treat the wiggles in the blue</p> <p>10 line in Figure 14 as idiosyncratic.</p> <p>11 BY MS. GOODMAN:</p> <p>12 Q. Okay. And those short-run</p> <p>13 fluctuations that you see in Figure 14 -- did you</p> <p>14 observe similar short-run fluctuations for</p> <p>15 purposes -- in -- in designing your event study</p> <p>16 that you took into account?</p> <p>17 MS. STRICK: Objection: form.</p> <p>18 THE WITNESS: These short-run</p> <p>19 functions are a function of variation over</p> <p>20 time across exchanges in the exchange data</p> <p>21 that I use for the event study analysis.</p> <p>22 In every economic -- in every</p>	<p style="text-align: right;">Page 369</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. For purposes of your</p> <p>3 apportionment analysis, you conclude that the</p> <p>4 FAAs are representative advertisers, correct?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: In the tax</p> <p>7 incidence model or apportionment analysis,</p> <p>8 I estimate supply and demand elasticities</p> <p>9 for the entire market that I think that</p> <p>10 I -- in my opinion, are appropriate to</p> <p>11 apply to the FAAs.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. Because the FAAs, in your opinion,</p> <p>14 are representative advertisers --</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. -- is that accurate?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: I think it's more</p> <p>20 accurate to say, because the FAAs are</p> <p>21 buying in the market and they're a large</p> <p>22 buyer that buy a variety of ads in the open</p>



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<p style="text-align: right;">Page 370</p> <p>1 web display impression market than because</p> <p>2 they are representative of other</p> <p>3 advertisers in all of the advertiser</p> <p>4 characteristics.</p> <p>5 BY MS. GOODMAN:</p> <p>6 Q. So in Paragraph 127 of your opening</p> <p>7 report on Page 59, you say you treat the FAAs as</p> <p>8 a representative advertiser.</p> <p>9 Should that sentence be</p> <p>10 rewritten to say more accurately the FAAs are</p> <p>11 buying in the market and they're a large buyer</p> <p>12 and for that reason, they are representative?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: I wouldn't say that</p> <p>15 for that reason, they are representative.</p> <p>16 That wouldn't make the sentence that you're</p> <p>17 interested in more accurate.</p> <p>18 BY MS. GOODMAN:</p> <p>19 Q. So do you stand by what you wrote</p> <p>20 in your report, that it's appropriate to treat</p> <p>21 the FAAs as representative advertisers?</p> <p>22 A. In that context, the term</p>	<p style="text-align: right;">Page 372</p> <p>1 I guess what I'm asking is, Did</p> <p>2 you consider any factors that might make it</p> <p>3 improper to treat an FAA as a representative</p> <p>4 advertiser in the way that you've described it,</p> <p>5 which is, estimating marketwide supply and demand</p> <p>6 elasticities?</p> <p>7 MS. STRICK: Objection: form.</p> <p>8 THE WITNESS: I considered</p> <p>9 whether marketwide supply and demand</p> <p>10 elasticities would be an appropriate way to</p> <p>11 -- well, provide the right inputs into the</p> <p>12 tax incidence model that I used for</p> <p>13 apportionment and based on the scale and</p> <p>14 variety of impressions purchased by the</p> <p>15 FAAs collectively, as well as the fact that</p> <p>16 they're participating in this worldwide</p> <p>17 market for open wide display impressions</p> <p>18 that have reasonably substitutable</p> <p>19 impressions in them, that that would be an</p> <p>20 appropriate approach.</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Okay. And in order for your</p>
<p style="text-align: right;">Page 371</p> <p>1 "representative advertiser" is a term that an</p> <p>2 economist would understand to mean an estimating</p> <p>3 marketwide supply and demand elasticities, and so</p> <p>4 I stand by my report in that sense. And I think</p> <p>5 I clarified the confusion that may have resulted</p> <p>6 from using the term "representative advertiser"</p> <p>7 with respect to advertiser characteristics in my</p> <p>8 rebuttal report.</p> <p>9 Q. So did you consider any factors</p> <p>10 that might make FAAs different from the</p> <p>11 representative advertiser in reaching a con- --</p> <p>12 in treating them as representative advertisers</p> <p>13 for purposes of your report?</p> <p>14 MS. STRICK: Objection: form.</p> <p>15 THE WITNESS: In your question,</p> <p>16 when you say I treated them as</p> <p>17 representative advertisers, are we taking</p> <p>18 that to mean what I just explained it</p> <p>19 means, that I'm estimating marketwide</p> <p>20 supply and demand elasticities?</p> <p>21 BY MS. GOODMAN:</p> <p>22 Q. Well, not quite.</p>	<p style="text-align: right;">Page 373</p> <p>1 but-for take rates to be applied to the FAAs</p> <p>2 under any model that you've put forward, you have</p> <p>3 to treat the FAAs as representative advertisers,</p> <p>4 right?</p> <p>5 MS. STRICK: Objection: form.</p> <p>6 THE WITNESS: That question</p> <p>7 started with but-for take rates and then</p> <p>8 proceeded to the apportionment analysis.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Well, the apportionment analysis is</p> <p>11 based on your but-for take rates, right?</p> <p>12 You're apportioning the but-for</p> <p>13 take rates, right?</p> <p>14 A. It's not based --</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 You may go.</p> <p>17 THE WITNESS: I'm sorry.</p> <p>18 -- the apportionment is not based</p> <p>19 on the but-for take rates, no.</p> <p>20 BY MS. GOODMAN:</p> <p>21 Q. Well, you're using the but-for take</p> <p>22 rates as an input to your apportionment analysis,</p>

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<p style="text-align: right;">Page 374</p> <p>1 right?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: I'm using the</p> <p>4 but-for take rates and the tax incidence</p> <p>5 model that allows for apportionment jointly</p> <p>6 in the overcharge calculation -- yes, to</p> <p>7 provide the -- the final output, which is</p> <p>8 the percentage overcharge.</p> <p>9 BY MS. GOODMAN:</p> <p>10 Q. Right. And so in order to -- for</p> <p>11 your apportionment analysis to be valid, does it</p> <p>12 -- is -- does it have to be the case that FAAs</p> <p>13 are representative advertisers for purposes of</p> <p>14 the comparables approach in the event study</p> <p>15 approach which you design to come up with a</p> <p>16 but-for take rate based on those marketwide</p> <p>17 conditions?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: Again, I don't</p> <p>20 understand the way that you're linking the</p> <p>21 parameters that I use -- or the estimates</p> <p>22 that I obtain of supply and demand</p>	<p style="text-align: right;">Page 376</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay. Did you consider the fact</p> <p>3 that other than -- other than for the Postal</p> <p>4 Service, none of the FAAs actually sell a product</p> <p>5 that they're advertising?</p> <p>6 MS. STRICK: Objection:</p> <p>7 foundation; form.</p> <p>8 THE WITNESS: I don't know that I</p> <p>9 specifically considered the differences in</p> <p>10 the products provided by the armed</p> <p>11 services, the Postal Service, the Census.</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. Okay. Did you consider the fact</p> <p>14 that the FAAs have to go through a highly</p> <p>15 regulated Government contracting process in order</p> <p>16 to obtain the funds -- or the con- -- or to</p> <p>17 contract with ad agencies who go out and actually</p> <p>18 purchase ads on their behalf?</p> <p>19 MS. STRICK: Objection:</p> <p>20 foundation; form.</p> <p>21 THE WITNESS: I considered the</p> <p>22 FAAs as advertisers, and I explained in my</p>
<p style="text-align: right;">Page 375</p> <p>1 elasticity, which are inputs into the tax</p> <p>2 incidence model --</p> <p>3 BY MS. GOODMAN:</p> <p>4 Q. Okay.</p> <p>5 A. -- which is for apportionment -- I</p> <p>6 don't understand how you're linking it to the</p> <p>7 but-for take rate calculations --</p> <p>8 Q. All right.</p> <p>9 A. -- they're just multiplied together</p> <p>10 in the end, and that provides the final output,</p> <p>11 which is the percentage overcharge.</p> <p>12 Q. So did you consider at all in your</p> <p>13 analysis the fact that, for example, the Census</p> <p>14 only advertises in a discrete period of time once</p> <p>15 every 10 years?</p> <p>16 MS. STRICK: Objection:</p> <p>17 foundation; form.</p> <p>18 THE WITNESS: I considered the</p> <p>19 Census and the other FAAs collectively to</p> <p>20 be a large set of advertisers that purchase</p> <p>21 a diverse array of ads.</p> <p>22</p>	<p style="text-align: right;">Page 377</p> <p>1 rebuttal report why the advertiser-specific</p> <p>2 characteristics that you're referring to</p> <p>3 are not something that I needed to account</p> <p>4 for in obtaining the inputs to the tax</p> <p>5 incidence model that I used for</p> <p>6 apportionment. Because they're buying in</p> <p>7 the open web display impressions market,</p> <p>8 and in that market, they're competing with</p> <p>9 other advertisers who are similar to them</p> <p>10 and different to them.</p> <p>11 And it's -- the incidence of the</p> <p>12 overcharge depends on the price of the</p> <p>13 product as opposed to the attributes of the</p> <p>14 advertiser.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Okay. Do the FAAs face the same</p> <p>17 demand curves?</p> <p>18 MS. STRICK: Objection: form;</p> <p>19 foundation.</p> <p>20 THE WITNESS: At the market</p> <p>21 level, buyers of open web display</p> <p>22 advertising impressions that are similar</p>

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<p style="text-align: right;">Page 378</p> <p>1 face similar -- well, face the same demand</p> <p>2 curves. The -- they -- let me -- let me</p> <p>3 step back.</p> <p>4 The FAAs are buyers, right? So</p> <p>5 the FAAs have a willingness to pay --</p> <p>6 they -- they're creating the demand curve</p> <p>7 --</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. Okay.</p> <p>10 A. -- so they don't face the demand</p> <p>11 curve.</p> <p>12 Q. Do they have the same demand curves</p> <p>13 --</p> <p>14 MS. STRICK: Objection --</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. -- do they have -- do they generate</p> <p>17 the same amount of demand --</p> <p>18 MS. STRICK: -- objection: form.</p> <p>19 BY MS. GOODMAN:</p> <p>20 Q. -- compared to one another?</p> <p>21 A. The FAAs purchase different numbers</p> <p>22 of impressions relative to one another.</p>	<p style="text-align: right;">Page 380</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. Okay.</p> <p>3 A. -- yes.</p> <p>4 Q. Okay. And so would your but-for</p> <p>5 revenue shares and apportionment analysis apply</p> <p>6 to a specific FAA if it is considered -- if -- if</p> <p>7 someone -- if one were to conclude it was not a</p> <p>8 representative advertiser?</p> <p>9 MS. STRICK: Objection: form.</p> <p>10 THE WITNESS: Could you repeat</p> <p>11 that question?</p> <p>12 BY MS. GOODMAN:</p> <p>13 Q. Would your apportionment</p> <p>14 analysis -- your tax incidence model apply to a</p> <p>15 specific FAA if it were -- if one reached the</p> <p>16 conclusion that that FAA is not a representative</p> <p>17 advertiser, as you use that phrase?</p> <p>18 MS. STRICK: Objection: form.</p> <p>19 THE WITNESS: As I use the</p> <p>20 phrase, it's not necessary to reach a</p> <p>21 conclusion about them being a</p> <p>22 representative advertiser.</p>
<p style="text-align: right;">Page 379</p> <p>1 Q. Okay. So is it fair to say that</p> <p>2 means they have different demand curves?</p> <p>3 MS. STRICK: Objection: form.</p> <p>4 THE WITNESS: In my rebuttal</p> <p>5 report, I explain why the</p> <p>6 advertiser-specific demand curve idea isn't</p> <p>7 an appropriate way to think about --</p> <p>8 BY MS. GOODMAN:</p> <p>9 Q. I understand that --</p> <p>10 A. -- the tax incidence here.</p> <p>11 Q. -- I understand that.</p> <p>12 My question is -- you say it's</p> <p>13 not appropriate. I just want to know if they, in</p> <p>14 fact, have different demand curves.</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 THE WITNESS: I would assume that</p> <p>17 based on their own objectives in purchasing</p> <p>18 ads, they purchase different kinds of ads</p> <p>19 as well as different quantities of ads.</p> <p>20 And in that sense, they're -- the demand of</p> <p>21 the FAAs is different from one another --</p> <p>22</p>	<p style="text-align: right;">Page 381</p> <p>1 BY MS. GOODMAN:</p> <p>2 Q. So you don't need -- in order for</p> <p>3 your apportionment analysis to apply to the</p> <p>4 actual FAAs in this case, it's your testimony you</p> <p>5 don't have to conclude that they have similar</p> <p>6 marketwide supply and demand curves as you are</p> <p>7 evaluating?</p> <p>8 MS. STRICK: Objection: form.</p> <p>9 THE WITNESS: Because they're</p> <p>10 buying in the same market, they do face</p> <p>11 similar marketwide supply and demand</p> <p>12 curves.</p> <p>13 BY MS. GOODMAN:</p> <p>14 Q. But not the same ones, correct?</p> <p>15 A. In this line . . .</p> <p>16 MS. STRICK: Objection: form.</p> <p>17 BY MS. GOODMAN:</p> <p>18 Q. Go ahead.</p> <p>19 A. Was there a question?</p> <p>20 Q. Yes.</p> <p>21 You say they faced similar</p> <p>22 marketwide supply and demand curves, and I said,</p>

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<p>1 "But not the same ones, correct"?</p> <p>2 MS. STRICK: Objection: form.</p> <p>3 THE WITNESS: In the market for</p> <p>4 open web display impressions, they face --</p> <p>5 well, we talked about demand curves.</p> <p>6 They generate the demand --</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Okay.</p> <p>9 A. -- I think they do face the same</p> <p>10 supply curves -- residual supply curves.</p> <p>11 Q. What about demand curves? Do they</p> <p>12 generate the same demand curves?</p> <p>13 MS. STRICK: Objection: form.</p> <p>14 THE WITNESS: No.</p> <p>15 BY MS. GOODMAN:</p> <p>16 Q. Okay. And look at Figure 2 in your</p> <p>17 rebuttal report, please -- it's the skinny one,</p> <p>18 yeah -- on Page 19.</p> <p>19 Does Figure 9 -- Figure 2 show</p> <p>20 that advertisers have different demand</p> <p>21 elasticities?</p> <p>22 MS. STRICK: Objection: form.</p>	<p>1 advertiser ID is an ID and that one</p> <p>2 advertiser could have many advertiser</p> <p>3 IDs --</p> <p>4 BY MS. GOODMAN:</p> <p>5 Q. Right.</p> <p>6 A. -- and the purpose of this figure</p> <p>7 is to show how, by doing this analysis that</p> <p>8 Professor Chevalier did at the disaggregated</p> <p>9 anonymized advertiser ID level, she overstates</p> <p>10 the variation in advertiser ID-specific</p> <p>11 elasticities.</p> <p>12 Q. Okay. But your Figure 2 shows that</p> <p>13 there is a difference between demand elasticities</p> <p>14 among anonymized advertiser IDs, correct?</p> <p>15 MS. STRICK: Objection: form.</p> <p>16 BY MS. GOODMAN:</p> <p>17 Q. Whether Cheval- -- Ms. --</p> <p>18 Professor Chevalier overstated it or not, your</p> <p>19 own analysis shows there's different demand</p> <p>20 elasticities among advertiser IDs, right?</p> <p>21 A. Individual advertisers may have</p> <p>22 different elasticities of demand or -- well,</p>
Page 383	Page 385
<p>1 THE WITNESS: Figure 2 shows that</p> <p>2 different disaggregated anonymized</p> <p>3 advertiser IDs have different demand</p> <p>4 elasticities, though it's unclear what that</p> <p>5 means at the level of the anonymized</p> <p>6 advertiser ID.</p> <p>7 BY MS. GOODMAN:</p> <p>8 Q. Do you have a sense of how many</p> <p>9 different advertisers are reflected in Google's</p> <p>10 data overall?</p> <p>11 MS. STRICK: Objection: form.</p> <p>12 THE WITNESS: A very, very large</p> <p>13 number of advertisers.</p> <p>14 BY MS. GOODMAN:</p> <p>15 Q. Right. And so even if it's</p> <p>16 anonymized, do you think that this disaggregate</p> <p>17 -- disaggregated anonymized advertiser ID demand</p> <p>18 that is reflected here in Figure 2 reflects a</p> <p>19 very, very large number of different advertisers?</p> <p>20 MS. STRICK: Objection: form.</p> <p>21 THE WITNESS: The dis- -- my</p> <p>22 understanding is that the anonymized</p>	<p>1 what's relevant is the aggregate demand</p> <p>2 elasticity for the product that's being</p> <p>3 purchased, as I explain in an example in my</p> <p>4 rebuttal report here earlier on.</p> <p>5 But in any case, the -- if we were</p> <p>6 able to observe individual advertisers rather</p> <p>7 than the anonymized ID, it's true that the</p> <p>8 elasticity of demand for a product for a specific</p> <p>9 buyer can differ across buyers.</p> <p>10 Q. Okay.</p> <p>11 MS. STRICK: Counsel, I believe</p> <p>12 we're over time.</p> <p>13 MS. GOODMAN: What time are we at</p> <p>14 on the record?</p> <p>15 THE VIDEOGRAPHER: You're at</p> <p>16 six hours -- you're -- you're at seven</p> <p>17 hours and two minutes.</p> <p>18 MS. GOODMAN: Okay.</p> <p>19 Do you have any redirect?</p> <p>20 MS. STRICK: It will be about</p> <p>21 10 minutes.</p> <p>22 MS. GOODMAN: Of redirect?</p>

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<p style="text-align: right;">Page 386</p> <p>1 MS. STRICK: Oh. Let's take a 2 10 -- let's take a 10-minute break, go off 3 the record -- 4 MS. GOODMAN: Okay. 5 MS. STRICK: -- when we'll get to 6 come back. 7 THE VIDEOGRAPHER: We're now off 8 the record at 6:07 p.m. 9 --oOo-- 10 (Whereupon, a recess was taken from 11 6:07 p.m. EST to 6:15 p.m. EST.) 12 --oOo-- 13 THE VIDEOGRAPHER: We're now back 14 on the record at 6:15 p.m. 15 You may proceed. 16 MS. STRICK: I have no redirect. 17 MS. GOODMAN: Okay. 18 THE VIDEOGRAPHER: Okay. This 19 now ends the deposition of 20 Dr. Timothy Simcoe. We're off the record 21 at 6:15 p.m. 22 (Whereupon, the following</p>	<p style="text-align: right;">Page 388</p> <p>1 C E R T I F I C A T E 2 I, Cindy L. Sebo, Nationally Certified Court 3 Reporter herein, do hereby certify that the foregoing 4 deposition of TIMOTHY S. SIMCOE, PH.D. was taken 5 before me pursuant to notice at the time and place 6 indicated; that said witness duly swore to tell the 7 truth, the whole truth, and nothing but the truth 8 under penalties of perjury; that said testimony of 9 witness was correctly recorded to the best of my 10 abilities in machine shorthand, thereafter 11 transcribed under my supervision with computer-aided 12 transcription; that deposition is a true and accurate 13 record of the testimony given by the witness; that I 14 am neither counsel, nor kin to any party in said 15 action, nor interested in the outcome; and that a 16 copy of this transcript obtained from a source other 17 than the court reporting firm, including an adversary 18 or co-counsel in the matter, is uncertified and may 19 not be used at trial. 20 CINDY L. SEBO, RMR, CRR, CLR, RPR, CCR, CSR, 21 RSA, CA CSR 14409, NJ Certified CR 30XI0024460, 22 NJ Certified RT 30XR00019500, NM CSR 589, NY Realtime Court Reporter, NY Association Certified Reporter, OR CSR 230105, TN CSR 998, TX CSR 12778, WA CSR 23005926, Notary Public</p>
<p style="text-align: right;">Page 387</p> <p>1 discussion was held off the video record 2 and on the stenographic record:) 3 CERTIFIED STENOGRAPHER: I 4 understand you will be getting daily, 5 Counsel. 6 And do you need the job daily as 7 well? 8 MS. CLEMONS: Yes, we need daily 9 and a rough draft. 10 CERTIFIED STENOGRAPHER: Sure, 11 not a problem. 12 13 (Witness excused.) 14 (Deposition concluded at 6:15 p.m. 15 EST.) 16 17 18 19 20 21 22</p>	<p style="text-align: right;">Page 389</p> <p>1 Amanda Strick, Esq. 2 Amanda.strick@usdoj.gov 3 February 26, 2024 4 RE: United States, Et Al v. Google, LLC 5 2/23/2024, Timothy S. Simcoe (#6456894) 6 The above-referenced transcript is available for 7 review. 8 Within the applicable timeframe, the witness should 9 read the testimony to verify its accuracy. If there are 10 any changes, the witness should note those with the 11 reason, on the attached Errata Sheet. 12 The witness should sign the Acknowledgment of 13 Deponent and Errata and return to the deposing attorney. 14 Copies should be sent to all counsel, and to Veritext at 15 erratas-cs@veritext.com 16 Return completed errata within 30 days from 17 receipt of testimony. 18 If the witness fails to do so within the time 19 allotted, the transcript may be used as if signed. 20 21 22 Yours, 23 Veritext Legal Solutions 24 25</p>